

Securities and Exchange Commission  
Washington, D.C. 20549

Annual Report on Form 10-K for the year ended December 31, 1989.  
Filed pursuant to Section 13 of the Securities Exchange Act of 1934.  
Commission file number 1-1463.

**Union Carbide**  
**Chemicals and Plastics Company Inc.**  
**1989 10-K**

Union Carbide Chemicals and Plastics Company Inc.	Tel. (203) 794-2000
39 Old Ridgebury Road	State of incorporation: New York
Danbury, Connecticut 06817-0001	IRS identification number: 13-1421730

**Securities registered pursuant to Section 12(b) of the Act:**

**Class of security:**

- 5.30% Debentures due 1997
- 8½% Debentures due 2005
- 7½% Debentures due 2006
- 9.35% Debentures due 2009
- 15% Senior Debentures due 2006
- 7½% Convertible Subordinated  
Debentures due 2012
- 9¾% Senior Subordinated  
Notes due 1994
- 14¼% Senior Notes due 1996

**Registered on:**

New York Stock Exchange  
New York Stock Exchange  
New York Stock Exchange  
New York Stock Exchange  
New York Stock Exchange  
New York Stock Exchange  
New York Stock Exchange  
New York Stock Exchange

**Securities registered pursuant to Section 12(g) of the Act:**

NONE

At March 28, 1990, 100 shares of common stock were outstanding, all of which were held by the registrant's parent, Union Carbide Corporation.

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months, and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

The registrant meets the conditions set forth in General Instruction J(1)(a) and (b) of Form 10-K and is therefore filing this form with a reduced disclosure format.

## DEFINITION OF TERMS

Unless the context otherwise requires, the terms below refer to the following:

<i>Company</i>	Union Carbide Chemicals and Plastics Company Inc.
<i>UCC&amp;P</i>	The Company and its consolidated subsidiaries
<i>domestic</i>	United States and Puerto Rico
<i>domestic operations</i>	Operations of UCC&P and its consolidated subsidiaries in this area, including exports
<i>international operations</i>	Operations of UCC&P's consolidated subsidiaries in areas of the world other than the United States and Puerto Rico
<i>Chemicals &amp; Plastics</i>	Worldwide chemicals and plastics business of UCC&P
<i>Industrial Gases</i>	Worldwide industrial gases and coatings service business of UCC&P
<i>Carbon Products</i>	Worldwide carbon products business of UCC&P
<i>UCC</i>	Union Carbide Corporation, parent of the Company
<i>Union Carbide</i>	UCC and its consolidated subsidiaries

The use of these terms is for convenience of reference only. The consolidated subsidiaries are separate legal entities which are managed by, and accountable to, their respective Boards of Directors.

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## Part I

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### Item 1. Business

**General**—The Company (formerly Union Carbide Corporation) was incorporated in 1917 under the laws of the State of New York.

Effective July 1, 1989, the Company became a wholly-owned subsidiary of a new holding company. The holding company took the name "Union Carbide Corporation" and the Company took the name of "Union Carbide Chemicals and Plastics Company Inc."

All of Union Carbide's businesses are conducted by UCC&P and there are no material differences between the consolidated operations of UCC&P and those of Union Carbide.

UCC&P does not produce against a backlog of firm orders; production is geared primarily to the level of incoming orders and to projections of future demand. Significant inventories of finished products, work in process and raw materials are maintained to meet delivery requirements of customers and UCC&P's production schedules.

UCC&P has three business segments, Chemicals & Plastics, Industrial Gases, and Carbon Products.

Chemicals & Plastics uses state-of-the-art process technologies to convert manufactured and purchased ethylene and propylene into the higher-value chemicals and polymers which it markets. In addition, Chemicals & Plastics has specialty businesses outside the ethylene chain of chemicals, including technology licensing services.

Industrial Gases separates air into its components for industrial and medical uses. It is the largest producer of industrial gases in North America and ranks among the top three suppliers worldwide. Its coatings service business uses metal and ceramic coatings to improve the wear resistance of machinery components.

Carbon Products is the world's leading supplier of graphite electrodes for electric furnace steelmaking. It also manufactures a variety of other carbon and graphite products used in industry.

**Raw Materials, Products and Markets**—Information about principal raw materials, products, markets, and methods of distribution may be found below. Unless otherwise indicated, the products of UCC&P are sold principally by its own sales force, directly to customers.

UCC&P believes it has contracts or commitments for, or readily available sources of, raw materials and fuel supplies to meet its anticipated needs in all major product areas. Although UCC&P produces a portion of its raw material requirements, the major portion of its needs is purchased from outside sources. While raw materials are currently available, their continuing availability and prices are subject to world market conditions.

Chemicals & Plastics buys liquefied petroleum gas and naphtha and makes ethylene and propylene. Along with purchased materials, the ethylene and propylene are used to make the following products: polyethylene for films, pipe, electrical insulation, wrap, bags, bottles and other products; ethylene oxide/glycol and derivatives used for antifreeze, polyester fiber, polyester film and resin, petroleum processing, coatings, lubricants, cosmetics and other uses; and alcohols and oxo-alcohols for coatings, preservatives, detergents and cosmetics. Chemicals & Plastics makes and buys other materials to produce acrylates and acetic esters for coatings, latexes, packaging and other products. From manufactured or purchased chemicals, Chemicals & Plastics produces the following specialty chemicals: specialty glycol ethers, alkyl alkanolamines, acrolein, ethylidene norbornene, and polyvinyl acetate. These specialty chemicals are used in the cosmetics, microbiocides, electronics, automotive, aerospace, oil and gas, and industrial lubricant industries, and as chemical intermediates for pharmaceuticals and agricultural chemicals. Silicones are used in the manufacture of lubricants, electronics, pharmaceuticals, glass fiber and personal care products. The crystal



## Part I (Cont.)

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products business makes circuit substrates and laser rods. Polycrystalline silicon is used in the manufacture of single crystal wafers which are used in integrated circuits by the semiconductor business.

Chemicals & Plastics' principal products are: industrial chemicals, polyolefins, solvents and coatings materials and specialty chemicals.

Chemicals & Plastics' leading end markets as a percent of sales are: film, molding and extrusion—21%; paints, coatings and adhesives—20%; textiles—10%; wire and cable—8%; automotive, including antifreeze—8%; chemical intermediates—6%; household and personal care products—5%.

Chemicals & Plastics is dependent in its operations upon the availability of hydrocarbon feedstocks and fuels which are purchased from diverse domestic and international sources, including independent oil and gas producers as well as integrated oil companies.

Industrial Gases' main products are the principal components of air—oxygen, nitrogen and argon—which are separated and purified. Electric power is a major operating cost. Gases are sold from on-site plants, through pipelines, in distributable and cylinder form. Demand is primarily from the chemicals, metal fabrication, food-processing, medical, electronics, and steel industries. Acetylene, hydrogen, helium and specialty gases are produced from its own or purchased materials. These gases are marketed for a wide variety of industrial applications, including metal fabrication, aerospace, electronics and basic research and development. Coatings Service uses metal and ceramic coatings to improve the wear resistance of machinery components and other critical parts.

Industrial Gases' principal products are: oxygen, nitrogen, argon, acetylene, hydrogen, helium, specialty gases, membrane systems, industrial gas plants and equipment, coatings services and advanced ceramics.

Industrial Gases' leading end markets as a percent of sales are: metal fabrication—21%; chemicals—17%; steel—17%; medical—9%; electronics—6%; aerospace—6%; food—4%.

Carbon Products buys anthracite coal, premium-grade petroleum coke, coal-tar pitch, petroleum pitch and natural graphite flake to make electrodes, refractory linings, metallurgical specialties and other carbon and graphite forms. These are sold to the steel, ferroalloys, aluminum, chemicals, aerospace and transportation industries. Electric power and natural gas or fuel oil are major operating costs.

Carbon Products' principal products are: graphite electrodes, carbon specialties, graphite specialties, and flexible graphite.

Carbon Products typical end markets as a percent of sales are: steel—66%; nonferrous metals—25%; chemical, electrochemical, aerospace—5%; transportation—4%.

**Patents; Trademarks; Research and Development**—UCC&P owns a large number of United States and foreign patents that relate to a wide variety of products and processes, has pending a substantial number of patent applications throughout the world, and is licensed under a number of patents. These patents expire at various times over the next 20 years. Such patents and patent applications in the aggregate are important to UCC&P's competitive position. No single patent or patent application is material. UCC&P also has a large number of trademarks. The *UNIPOL* and *LINDE* corporate trademarks are material; no other single trademark is material.

Essentially all of UCC&P's research and development activities are company sponsored. The principal research and development facilities of UCC&P are indicated in the discussion of Properties (Item 2) of this Form 10-K report. In addition to the facilities specifically indicated there, product development and process technology laboratories are maintained at some plants. UCC&P spent \$181 million in 1989 and \$159 million in 1988 and 1987 on company-sponsored research activities to develop new products, processes, or services, or to improve existing ones.

## Part I (Cont.)

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**Environment**—See Costs Relating to Protection of the Environment on page 15.

**Insurance**—The policy of the Company's parent is to obtain the optimum public liability insurance coverage that is currently available upon the terms and conditions and at a price that management considers fair and reasonable. UCC&P's management believes UCC&P has public liability insurance in an amount sufficient to meet its current needs in light of pending, threatened, and future litigation and claims. There is no assurance, however, that UCC&P will not incur losses beyond the limits of, or outside the coverage of, its insurance.

**Competition**—Each of the major business areas in which UCC&P participates is highly competitive. In some instances competition comes from manufacturers of the same products as those produced by UCC&P and in other cases from manufacturers of different products which may serve the same markets as those served by UCC&P's products. Some of UCC&P's competitors, such as companies principally engaged in petroleum operations, have more direct access to hydrocarbon feedstocks, and some have greater financial resources than UCC&P. In the businesses in which it participates, UCC&P competes on price, product performance, and service to customers.

There are a number of competitors in each of the industry segments in which UCC&P is active. In some of the individual businesses in which UCC&P participates there are many competitors; in others there are few. A discussion of competition by industry segment follows.

*Chemicals & Plastics's* businesses are highly competitive. Competition is primarily on price, product performance and, in certain specialty applications, on service to customers as well.

- Many producers have important industry positions in polyethylene, and Chemicals & Plastics is one of the world's largest producers. Other significant producers are Dow Chemical Company, Chevron Corporation, Exxon Corporation, Mobil Corporation, Quantum Chemicals Corporation, Occidental Petroleum Corporation, Phillips Petroleum Company, Enimont S.p.A., Saudi Basic Industry Corporation and The British Petroleum Company p.l.c.

- Chemicals & Plastics is the world's largest producer of ethylene oxide/glycol and derivatives. Other significant producers include Shell Oil Company, Dow Chemical Company, BASF Aktiengesellschaft, The British Petroleum Company p.l.c., Texaco Inc., Occidental Petroleum Corporation, Hoechst Celanese Corporation, and Saudi Basic Industry Corporation.

- In solvents and coatings materials, Chemicals & Plastics has a significant position in many product areas. Other significant producers include Hoechst Celanese Corporation, Rohm & Haas Company, Eastman Chemical, a division of Eastman Kodak Company, Shell Oil Company, Exxon Corporation, and Quantum Chemicals Corporation.

- Chemicals & Plastics is a major marketer of petrochemical products throughout the world. Products that Chemicals & Plastics markets are largely produced in the United States, while competitive products are produced throughout the world.

- Chemicals & Plastics, in partnership with Shell Oil Company, produces and markets polypropylene and grants UNIPOL polypropylene licenses.

- Chemicals & Plastics participates in a wide range of specialty chemical product/market segments. The competitive position varies widely from one product/market segment to another. Competitors include a number of domestic and foreign companies, both diversified and specialized.

- Chemicals & Plastics has formed UOP, a joint venture with a wholly-owned subsidiary of Allied-Signal, Inc. UOP licenses process technology, provides engineering and design services and specialized process equipment to the chemicals, plastics, petroleum, and gas processing industries, and is a leader in the United States in research, development, and manufacture of molecular sieves and a major producer of petroleum refining catalysts. Competitors include a number of domestic and foreign companies, both diversified and specialized.

## Part I (Cont.)

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*Industrial Gases*—The Industrial Gases business is the largest domestic producer of industrial gases and one of the three largest worldwide competitors, and operates within a highly competitive environment in that business. Competition is based on price, product performance, and service to customers.

■ Domestically, Industrial Gases is a basic producer of atmospheric gases (oxygen, nitrogen and argon) as well as acetylene, helium, hydrogen, and many specialty gases. Products are supplied to all segments of the marketplace in cylinders and through bulk, pipeline, or on-site supply systems. Other major domestic producers include Airco, Inc., a subsidiary of The BOC Group p.l.c., Air Products and Chemicals, Inc., and American Air Liquide, Inc., a subsidiary of L'Air Liquide S.A.

■ On a worldwide basis, Industrial Gases is a basic producer of atmospheric gases, acetylene, and some specialty gases. These products, as well as other industrial gases which are imported from the United States or purchased locally, are supplied to many geographic marketplaces. Major worldwide competitors include The BOC Group p.l.c., L'Air Liquide S.A., Air Products and Chemicals, Inc., and AGA Aktiebolag.

■ Coatings Service is the worldwide leader in thermal spray coatings used primarily in jet aircraft engines and other applications where a high quality, durable surface is a necessity. Principal domestic competitors are Sermatech Germany G.m.b.H., a subsidiary of Teleflex, Inc., and Chemtronics, Inc., a subsidiary of Interlake, Inc., while overseas each country offers a different competitor.

*Carbon Products*—The carbon and graphite businesses are highly competitive and compete primarily on the basis of product performance, price, and service to customers.

■ Carbon Products is the largest producer of graphite electrodes worldwide. Other significant producers include SIGRI G.m.b.H., Showa Denko K.K., Nippon Carbon Co. Ltd., Tokai Carbon Co. Ltd., Carbon/Graphite Group Inc., Pechiney, and Great Lakes Carbon Corporation, a subsidiary of Horsehead Industries, Inc.

■ Carbon Products is the leading supplier of carbon and graphite products worldwide. Principal competitors include SIGRI G.m.b.H., Pechiney, Great Lakes Carbon Corporation, a subsidiary of Horsehead Industries, Inc., Stackpole Corporation, Showa Denko K.K., and Nippon Carbon Company Ltd.

UCC&P's international operations face competition in world markets and a number of other risks inherent in carrying on business outside the United States, including risks of nationalization, expropriation, restrictive action by local governments and changes in currency exchange rates.

## Part I (Cont.)

### Item 2. Properties

UCC&P operates approximately 483 plants, factories, and laboratories around the world.

The Company's headquarters is located in Danbury, Connecticut.

In management's opinion, current facilities, together with planned expansions, provide adequate production capacity to meet UCC&P's planned business activities in each of its industry segments.

Listed below are the principal manufacturing facilities operated by UCC&P worldwide by industry segment. Research and engineering facilities are noted. Facilities are listed under the name of the industry segment to which they are principally devoted. Most of the United States and Puerto Rican properties are owned in fee. UCC&P maintains numerous domestic sales offices and warehouses, substantially all of which are leased premises under relatively short-term leases. All principal international operations' manufacturing properties are owned or held under long-term leases. International operations administrative offices, technical service laboratories, sales offices and warehouses are owned in some instances and held under relatively short-term leases in other instances.

**Chemicals & Plastics**—At year-end 1989, 17,078 people were employed worldwide.

Principal domestic operations manufacturing facilities and the principal products manufactured there are as follows:

Location	City	Principal Product(s)
California	Sunnyvale	Photoresists
California	Torrance	Latexes
Georgia	Tucker	Latexes
Illinois	Alsip	Latexes
Illinois	Bensenville	Printed circuit chemicals
Indiana	Indianapolis	Coating and bonding systems
Kentucky	Henderson	Dielectric fluid
Louisiana	Greensburg	Hydroxyethyl cellulose derivatives
Louisiana	Taft	Acrolein and derivatives, acrylic monomers, U.V. curing, alkylene amines, cycloaliphatic epoxides, ethylene oxide and glycol, glycol ethers, olefins
Louisiana	Taft (Star Plant)	Polyethylene
Massachusetts	Acushnet	Precision coating equipment
New Jersey	Bound Brook	Coatings resins, phenolic resins, polyethylene compounding, synthetic thickeners
New Jersey	Edison	Lanolin derivatives
New Jersey	Somerset	Latexes
New York	Mamaroneck	Lanolin derivatives
Puerto Rico	Bayamon	Latexes
Texas	Garland	Latexes
Texas	Seadrift	Alkanolamines, ethylene oxide and glycol, glycol ethers, olefins, polyethylene, polypropylene, Tergitol surfactants

## Part I (Cont.)

### Chemicals & Plastics (Cont'd)

Location	City	Principal Product(s)
Texas	Texas City	Olefins, organic acids and esters, alcohols, <i>Tergitol</i> surfactants, vinyl acetate, coatings resins
Washington	Moses Lake	Polycrystalline silicon <sup>(a)</sup>
Washington	Washougal	Crystal products
West Virginia	Institute	<i>Carbowax</i> polyethylene glycol, hydroxyethyl cellulose, <i>Polyox</i> polyethylene oxide, ketones, <i>Tergitol</i> surfactants, ethylenenorbornene
West Virginia	Sistersville	Antifoams and emulsions, organo functional silanes and silicone surfactants, silicone fluids
West Virginia	South Charleston	Alkylalkanolamines, brake fluids, ketones, miscellaneous specialty products, <i>UCON</i> fluids
Wisconsin	Clear Lake	Conformal coating services

Research and development are carried on at technical centers in Bound Brook, Edison and Somerset, New Jersey; Tarrytown, New York; Cary, North Carolina; Washougal, Washington; Sistersville and South Charleston, West Virginia. Process and design engineering is conducted at the technical center in South Charleston, West Virginia in support of domestic and foreign projects.

(a) The Company has announced plans to sell this business in 1990.

Principal international operations manufacturing facilities and the principal products manufactured there are as follows:

Country	City	Principal Product(s)
Argentina	Buenos Aires	Silicones
Belgium	Antwerp	Hydroxyethyl cellulose, silicone surfactants
Belgium	Vilvoorde	Lanolin derivatives
Brazil	Cotia	Hydroxyethyl cellulose
Brazil	Cubatao	Polyethylene
Brazil	Itatiba	Silicones
Canada	Boucherville	Molded polyethylene products
Canada	Cowansville	Polyethylene film
Canada	Edmonton	Polyethylene film
Canada	Montreal East	Chemicals
Canada	Orangeville	Polyethylene film
Canada	Orillia	Polyethylene film
Canada	Prentiss	Ethylene glycol
Colombia	Barranquilla	Silicones
Ecuador	Guayaquil	Latex, coatings resins
Germany (West)	Solingen	Photoresists
Hong Kong	Kowloon	Latex, silicones
Indonesia	Jakarta	Latex
Italy	Termoli	Organofunctional silanes
Malaysia	Seremban	Latex, silicones
Singapore	Jurong	Latex
South Korea	Cho'nan	Photoresists

## Part I (Cont.)

### Chemicals & Plastics (Cont'd)

Country	City	Principal Product(s)
Sri Lanka	Ekala	Latex
Thailand	Nonthaburi	Latex
United Kingdom	Hythe	Silicone surfactants
United Kingdom	Northhampton	Conformal coatings services

Research and development are carried on at international operations facilities in Antwerp, Belgium; Montreal East, Canada; Cubatao, Brazil and Versoix, Switzerland.

**Industrial Gases**—At year-end 1989, 21,931 people were employed worldwide.

Industrial Gases' domestic facilities for the manufacture of industrial gases are located at more than 100 plants, some of which are located at customers' facilities, at various locations throughout the United States. Principal domestic manufacturing facilities for products other than oxygen, nitrogen and argon and the principal products manufactured there are as follows:

Location	City	Principal Product(s)
California	Ontario	Gaseous and liquid hydrogen
California	Torrance	Specialty gases
Connecticut	North Haven	Coatings service
Indiana	East Chicago	Specialty gases
Indiana	Indianapolis	Coatings service
Kansas	Bushton	Gaseous and liquid helium
Kansas	Ulysses	Gaseous and liquid helium
Massachusetts	Norwood	Membrane systems
Missouri	Kansas City	Coatings service
New Jersey	Keasbey	Specialty gases
New York	Niagara Falls	Gaseous and liquid hydrogen
New York	Tonawanda	Air separation equipment
Tennessee	Knoxville	Specialty gases
Texas	Houston	Specialized industrial services

Research and development are carried on at major facilities in Indianapolis, Indiana; Norwood, Massachusetts; Tonawanda and Tarrytown, New York. Engineering facilities are located at Tonawanda and Tarrytown, New York and Springfield, New Jersey.

Principal international operations manufacturing facilities and the principal products manufactured there are as follows:

Country	City	Principal Product(s)
Belgium	Antwerp	Industrial gases
Belgium	Oevel	Industrial gases
Brazil	Various	Industrial gases, air separation equipment, welding and related products
Canada	Fort Saskatchewan	Industrial gases
Canada	Montreal	Industrial gases
Canada	Oakville	Industrial gases
Canada	Prentiss	Industrial gases

## Part I (Cont.)

### *Industrial Gases (Cont'd)*

Country	City	Principal Product(s)
Canada	Sarnia	Industrial gases
Canada	Sault Ste. Marie	Industrial gases
Canada	Selkirk	Industrial gases
Canada	Tracy	Industrial gases
France	Creil	Industrial gases
France	St. Etienne	Coatings service
Germany (West)	Biebesheim	Industrial gases
Germany (West)	Ratigen	Coatings service
Japan	Okigawa	Coatings service
Korea	Giheung	Industrial gases
Korea	Changwon City	Industrial gases and coatings service
Spain	Gijon	Industrial gases
Switzerland	Geneva	Coatings service
United Kingdom	Southam	Coatings service
United Kingdom	Swindon	Coatings service

Research and development are carried on at international operations facilities in Rio de Janeiro, Brazil and Okigawa, Japan.

**Carbon Products**—At year-end 1989, 6,024 people were employed worldwide.

Principal domestic operations manufacturing facilities and the principal products manufactured there are as follows:

Location	City	Principal Product(s)
California	Irvine	Graphite tooling
Illinois	Robinson	Calcined petroleum coke
New York	Niagara Falls	Calcined coal
Ohio	Cleveland	Specialty inorganic materials
Puerto Rico	Yabucoa <sup>(a)</sup>	Graphite electrodes
Tennessee	Clarksville	Graphite electrodes
Tennessee	Columbia	Graphite electrodes and carbon products
Tennessee	Lawrenceburg	Carbon and graphite products
West Virginia	Clarksburg	Graphite specialties

Research and development are conducted primarily at a facility in Parma, Ohio. Engineering facilities are also located at Parma.

(a) Shutdown January 1990

Principal international operations manufacturing facilities and the principal products manufactured there are as follows:

Country	City	Principal Product(s)
Brazil	Candeias	Carbon cathodes, graphite electrodes
Canada	Welland	Graphite electrodes
France	Aigueblanche	Graphite electrodes
France	Calais	Graphite electrodes
Italy	Caserta	Graphite electrodes
Italy	Forno Allione	Graphite electrodes
Spain	Pamplona	Graphite electrodes
United Kingdom	Sheffield	Graphite electrodes and graphite products

## **Part I (Cont.)**

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### **Item 3. Legal Proceedings**

See Note 15 of Notes to Financial Statements on page 36.

In December 1989, the U.S. Environmental Protection Agency conditionally proposed a civil penalty of \$325,000 jointly against Union Carbide and Rhone-Poulenc Ag Company ("R-P") with respect to alleged violations of the federal Clean Water Act at the Institute, West Virginia facility, portions of which are separately owned by R-P and the Company.

### **Item 4. Submission of Matters to a Vote of Security Holders**

Omitted pursuant to General Instruction J of Form 10-K.



## **Part II**

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### **Item 5. Market for Registrant's Common Equity and Related Stockholder Matters**

There is no established public trading market for the Company's common stock, since the Company is a wholly-owned subsidiary of Union Carbide Corporation. Dividend information is set forth on pages 17 and 20.

### **Item 6. Selected Financial Data**

Omitted pursuant to General Instruction J of Form 10-K.

## Part II (Cont.)

### Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

#### Results of Operations

##### Summary—Consolidated Results

Dollar amounts in millions	1989	1988	1987
Consolidated sales	\$8,744	\$8,324	\$6,914
Segment operating profit	1,269	1,480	777
Net income	573	662	232

Sales in 1989 increased 5% over 1988 and 26% over 1987 levels. All industry segments have recognized sales increases in each of the past two years. Export sales from domestic operations, principally Chemicals & Plastics, have been particularly strong, increasing to \$911 million in 1989, 14% above 1988 and 52% over 1987 exports.

Segment operating profit however, decreased to \$1.269 billion in 1989, 14% below the record level of 1988, but still 63% above 1987 results. Chemicals & Plastics operating profit was affected by a deteriorating gross margin during 1989, which, together with planned increases in research and development and overhead expenses associated with expanded construction and new business development activities, caused a 17% reduction in operating profit as compared with the prior year. In addition, Industrial Gases and Carbon Products recognized pre-tax restructuring charges of \$73 million and \$4 million respectively, which accounted for their respective year-to-year operating profit decreases of 3% and 4%. In the absence of the restructuring charge, Industrial Gases' operating profit would have increased 28% over 1988. Operating profit for 1989 and all prior periods presented has been restated to exclude the effects of foreign currency gains on debt and prior period tax liabilities of affiliates operating in hyperinflationary countries—principally Brazil. The gains have been reclassified to interest and tax expense respectively, with no effect on previously reported net income. In addition, a portion of corporate staff costs previously included in General expenses—net in the segment results has been allocated to segment operating profit.

Percent change from prior year (Domestic operations)	1989	1988	1987
Sales	+1	+ 21	+5
Average selling prices	0	+ 11	0
Volume	+1	+ 10	+5

Net income decreased 13% in 1989 as compared with 1988 but at \$573 million was approximately 2-1/2 times the 1987 level. Net income for 1989 included an after-tax charge of \$56 million, representing principally Industrial Gases and Carbon Products restructuring costs as well as \$8 million of after-tax costs involved in completing the worldwide realignment of UCC's core businesses. After-tax charges of \$58 million and \$53 million were recognized in 1988 and 1987, respectively, representing litigation accruals principally related to resolution of the Bhopal litigation.

##### Segment Analysis: Chemicals & Plastics

Sales of \$5.613 billion increased 2% over 1988 to a record, principally reflecting continued strong pricing for most product lines other than polyethylene and strong volumes for all major product lines throughout the first half of 1989. Sales weakened in the second half of the year as a result of deteriorating pricing for ethylene oxide/glycol, polyethylene and certain other industrial chemicals; reduced volumes for ethylene oxide/glycol and the absence of revenues from the urethane polyols and propylene glycols businesses, which were sold in September. Polyethylene prices declined steadily during the first three quarters of 1989 before stabilizing in the fourth quarter, but volume was strong throughout the year.

## Part II (Cont.)

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Operating profit decreased 17% to \$1.003 billion as compared with the record levels achieved in 1988. Increased maintenance expense, start-up costs of new facilities, increased expenses related to expanded capital projects, costs associated with extreme cold weather conditions near year-end 1989, as well as the reduced sales in the second half of the year all contributed to a decreasing gross margin trend throughout the year notwithstanding generally favorable feedstock pricing. The 1989 gross margin ratio declined to 30.3% from 32.9% in 1988. Research and development activities, largely in support of new product and new business development, particularly for specialty businesses, were expanded during the year resulting in a 15% increase in expenditures to \$143 million. Selling, administrative and other expenses increased by 15% to \$405 million reflecting support for increased new business development activities as well as the impact of non-capitalizable engineering expenses associated with our expanded capital spending program. As a percentage of sales, selling, administrative and other expenses increased to 7.2% from 6.4% in 1988. Income from joint venture partnerships, included in Other income—net, decreased to \$82 million in the current year from \$95 million in 1988. Improved results from UOP (a catalysts and process systems joint venture) were more than offset by reduced results from other partnerships. Other income—net included a third-quarter gain of \$96 million (of a total pre-tax gain of \$101 million) from the sale of the urethane polyols and propylene glycols businesses, largely offset by a third-quarter charge of \$90 million resulting from a write-down to net realizable value of the polysilicon business. Based upon trends evident at year-end 1989, near-term 1990 results are expected to continue to be negatively affected by weakened prices of industrial chemicals coupled with likely increases in feedstock costs.

Sales in 1988 reached \$5.525 billion and rose 28% above the previous year. Most businesses within the group contributed to the excellent results, with industrial chemicals and polyolefins enjoying exceptionally strong increases. Sales increased in all geographic areas, and domestic average selling prices were up 17%, with higher prices particularly for industrial chemicals and polyolefins.

Operating profit in 1988 increased 125% to \$1.204 billion when compared with 1987. Improved operating profit was reported in all geographic areas. Gross margin ratios increased from 27.6% in 1987 to 32.9%. High plant capacity use, favorable feedstock costs and higher sales prices and volumes were key factors that improved the gross margin ratio. Research and development expenditures, which aggregated \$124 million in 1988 as compared with \$123 million in 1987, were directed primarily at new product and new business development. Selling, administrative and other expenses were essentially flat at \$353 million. As a percentage of sales, however, these costs decreased substantially to 6.4% from 8.0% in the prior year. Partnership income in 1988 was \$95 million, an increase of \$79 million over 1987.

Sales in 1987 at \$4.325 billion were approximately 16% higher than in the prior year, propelled by both volume gains and higher prices. Domestic average selling prices were up 4%. Almost all businesses posted important sales gains. Sales increased in all geographic areas, with the largest gains recorded domestically, and in Europe and Canada.

Operating profit in 1987 reached \$534 million, with increases reported in all geographic areas. In particular, the ethylene oxide/glycol and derivatives business and the polyolefins business capitalized on strong demand and higher prices to widen margins. Operating profit was also boosted by a significant rise in exports resulting mainly from the continuing weakness of the U.S. dollar. Partially offsetting these increases were increased selling, administrative and other expenses, primarily related to expanded customer service and support. Selling, administrative and other expenses declined as a percent of sales to 8.0%.

## Part II (Cont.)

Dollar amounts in millions	1989	1988	1987
Sales	\$ 5,613	\$ 5,525	\$ 4,325
% of UCC&P Consolidated	64%	66%	63%
Operating profit	\$ 1,003	\$ 1,204	\$ 534
% of UCC&P Consolidated	79%	81%	69%
Number of Employees (year-end)	17,078	16,362	17,108

### Segment Analysis: Industrial Gases

Sales in 1989 set a new record at \$2.349 billion, an increase of 13% from 1988. Worldwide volumes for primary products increased 6% over 1988. Sales dollars and volumes improved in all geographic areas with Brazilian sales improving 31%. Sales growth in Brazil resulted from 12% volume growth, pricing actions that kept pace with inflation and devaluation of local currency at rates less than inflation. Two price increases were implemented late in the year domestically, reversing several years of pricing weakness. Volume growth continued to be higher than the economic growth of the countries in which we operate, mainly as a result of our market diversification efforts and emphasis on new technologies.

Operating profit in 1989 was \$222 million, down 3% from 1988. The 1989 results include a \$73 million before-tax restructuring charge for facility shutdown costs and severance and relocation benefits necessary to strengthen the competitive position of U.S. operations. Excluding the restructuring charge, all geographic areas recorded increases in operating profit compared with 1988. The worldwide gross margin ratio increased to 41.7% in 1989 from 40.9% in 1988 reflecting volume, pricing and productivity improvements internationally as well as favorable currency impacts in Brazil. The domestic gross margin ratio was down slightly as weak pricing earlier in the year and increased operating costs more than offset volume growth and productivity gains. Research and development activities, including support of non-cryogenic processes for air separation, were expanded during 1989 resulting in a 10% increase in research and development expense to \$33 million. Selling, administrative and other expenses increased by 18% to \$415 million as compared with \$351 million in 1988. The impact of local inflation and unfavorable currency effects in Brazil, costs associated with the consolidation of U.S. packaged gas operations and the acquisition of several distributors, accounted for the major portion of this increase. As a percentage of sales, selling, administrative and other expenses were 17.4%, a slight increase from 1988. Excluding the restructuring charge, Other expenses—net decreased by \$15 million to \$61 million compared to \$76 million in 1988. Other expenses—net in 1988 included a \$10 million asset impairment charge. Included in 1989 and 1988 were foreign currency adjustments of \$106 million and \$109 million respectively, primarily in Brazil. Assuming a continuation of stronger pricing and volume trends evident at year-end 1989 and as benefits from the U.S. restructuring programs begin to be realized, operating profit is expected to improve in 1990.

Sales of \$2.076 billion in 1988 increased 11% over 1987 primarily due to higher international results. Although domestic volumes increased significantly over 1987, pricing continued to weaken in 1988. Sales rose 22% in Latin America, 9% due to volume growth.

Operating profit in 1988 was \$230 million, down slightly from \$237 million in 1987. Lower domestic results, primarily due to the \$10 million charge for impairment of assets related to an enhanced oil recovery project, consolidation costs in the packaged gases business and continued price weakness were only partially offset by improved international results. The gross margin ratio of 40.9% was about level with 1987. Research and development expense increased 11% over 1987 to \$30 million, reflecting expanded programs in the United States and in Brazil. Selling, administrative and other expenses increased by 12% to \$351 million as compared with \$314 million in 1987. Other expenses—net increased \$44 million to \$76 million as compared to \$32 million in 1987, mainly reflecting \$50 million of increased foreign currency adjustments in Brazil as well as the asset impairment charge.

Sales in 1987 grew approximately 6% over 1986 as a result of higher international sales. Volume growth in the domestic business was more than offset by pricing pressures.

## Part II (Cont.)

Operating profit in 1987 was \$237 million. Improved international results were more than offset by a decline in the domestic business due to pricing pressures and weakness in the steel industry.

Dollar amounts in millions	1989	1988	1987
Sales	\$ 2,349	\$ 2,076	\$ 1,872
% of UCC&P Consolidated	27%	25%	27%
Operating profit	\$ 222*	\$ 230	\$ 237
% of UCC&P Consolidated	17%	16%	31%
Number of Employees (year-end)	21,931	20,252	19,205

\*Includes a \$73 million restructuring charge.

### Segment Analysis: Carbon Products

Sales in 1989 increased 8% over 1988 to \$782 million, the highest level of the last three years. Increased shipments were recorded in the United States and most international areas, especially in Europe, where the largest part of our international activity occurs. Worldwide sales volume was higher for most major products.

Operating profit in 1989 was \$44 million, a decrease of 4% as compared with the prior year. The gross margin ratio increased to 21.3% from 20.9% in 1988. Increased volumes and a favorable effect from liquidation of LIFO inventory quantities acquired at lower costs prevailing in prior years were partially offset by increased manufacturing costs. Selling, administrative and other expenses increased 10%, reflecting increased selling costs due to higher sales and higher administrative costs. As a percentage of sales, however, selling, administrative and other expenses at 8.6% were approximately the same as 1988. Other expenses—net in 1989 included a charge of \$4 million representing costs associated with restructuring a facility in Canada. Operating costs in 1990 are expected to benefit from the shutdown in January 1990 of a high-cost production facility in Puerto Rico and the restructuring of the Canadian facility.

In 1988, sales increased by 17% to \$723 million as compared with the prior year. Increased shipments were recorded in all major geographic areas. Sales were helped by the effect of the weaker U.S. dollar on currency translation rates.

Operating profit in 1988 also increased over the prior year, reaching \$46 million. The gross margin ratio increased slightly to 20.9% from 20.4% in 1987 as a result of higher volumes and operating rates. More significantly, management's continued efforts at cost containment and profit improvement resulted in a reduction in selling, administrative and other expenses of \$11 million. The ratio of selling, administrative and other expenses to sales fell dramatically to 8.7% in 1988 from 11.9% in 1987.

Sales increased in 1987 to \$619 million, with increases reported in all of the segment's geographic areas. Increased graphite electrode volumes resulting from higher electric arc furnace steel production were offset in part by weak product pricing due to overcapacity.

In 1987, operating profit aggregated \$20 million. The relatively low gross margin ratio in 1987 of 20.4% was largely the result of a poor pricing environment. Also adversely affecting operating profit was an increase in selling, administrative and other expenses.

Dollar amounts in millions	1989	1988	1987
Sales	\$ 782	\$ 723	\$ 619
% of UCC&P Consolidated	9%	9%	9%
Operating profit	\$ 44	\$ 46	\$ 20
% of UCC&P Consolidated	4%	3%	3%
Number of Employees (year-end)	6,024	6,482	5,843

## **Part II (Cont.)**

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### **Segment Analysis: General Expenses—Net**

General expenses—net includes unallocated corporate staff costs, the cost of accounts receivable discounting and other non-interest financing charges, corporate legal expenses, corporate realignment costs and certain interest income as well as income and expenses related to discontinued or non-core businesses. The Company's principal non-core businesses include domestic mining and milling of uranium and vanadium through Umetco Minerals Corporation and the mining and smelting of chrome by unconsolidated subsidiaries in Zimbabwe. In addition, the Company holds a 50% interest in KEMET Electronics Corporation, a manufacturer of electronic capacitors.

### **Costs Relating To Protection Of The Environment**

Worldwide costs relating to environmental protection continue to grow significantly due both to the Company's ongoing commitment to vigorous internal standards and to more stringent laws and regulations. In 1989, worldwide expenses related to environmental protection, including cash expenditures and accruals for waste site remedial activities, totaled \$179 million, an increase of \$20 million, or 13% over 1988. In 1989 and 1988, approximately 76% and 84%, respectively, of the total expense relates to, and has been charged against, Chemicals & Plastics operations. In addition, worldwide capital expenditures relating to environmental protection in 1989 aggregated \$50 million, an increase of \$11 million over the prior year.

Estimates of the future cost of environmental protection are necessarily imprecise due to numerous uncertainties including, among other issues, the impact of new laws and regulations, the availability of new technologies, the applicability of insurance coverage and the identification of new hazardous waste sites. The Company estimates that worldwide expenses for environmental protection, expressed in 1989 dollars, should average about \$200 million annually over the next five years, 1990-1994. Worldwide capital expenditures for environmental protection, also expressed in 1989 dollars, are expected to average about \$110 million annually over the same period.

### **Interest Expense**

Interest expense totaled \$304 million in 1989, virtually the same as the \$300 million of 1988. The 1988 expense represented a decline of 4% from the comparable 1987 amount of \$311 million. The decrease was attributable to lower average domestic borrowings. Interest expense for 1988 and 1987 has been changed for reclassification of foreign currency gains on debt incurred by affiliates operating in Latin American hyperinflationary countries, principally Brazil, from other income to interest expense.

### **Provision For Income Taxes**

The effective tax rate for 1989 decreased to 32.3% as compared to 37.6% in 1988, reflecting increased Foreign Sales Corporation earnings as a proportion to total pre-tax income and reversals of deferred tax credits established at higher rates in prior years. The 1988 tax rate increased significantly as compared with the 1987 rate of 31.9%. In addition to the reversal of deferred tax benefits established at higher tax rates in prior years, the 1988 effective rate included increased state and local income taxes, the elimination of tax credits, and the impact of untaxed currency translation losses. The 1987 rate also benefited by adjustments to 1986 sales of businesses. Provision for income taxes in 1988 and 1987 has been changed for reclassification of foreign currency gains on prior period tax liabilities of affiliates operating in Latin American hyperinflationary countries, principally Brazil, from other income to provision for income taxes.

Statement of Financial Accounting Standards No. 96, Accounting for Income Taxes, effective for years beginning after December 15, 1991, will significantly modify the accounting for income taxes. The Company plans to adopt the new standard in 1992. There would not have been a material effect on the financial statements if the standard had been adopted in 1989.

## **Part II (Cont.)**

### **Minority Interest And Equity Company Earnings**

Minority stockholders' share of income totaled \$59 million in 1989 down 8% from the prior year, mainly due to lower Chemicals & Plastics income from our 75% owned Canadian subsidiary. Minority share increased 60% in 1988. A full year of dividends on preferred stock of Union Carbide Finance Corporation was included in minority share in 1988 compared with dividends for a partial year in 1987 (operations commenced in September 1987). Minority share also increased in 1988 as a result of higher income from both the Canadian (Chemicals & Plastics and Industrial Gases) and 52% owned Brazilian (Industrial Gases) subsidiaries. Minority share increased 25% in 1987 to \$40 million. Higher income from industrial gas operations of a Brazilian subsidiary and dividends on preferred stock of Union Carbide Finance Corporation accounted for much of the increase.

At \$38 million, the Company's share of income of corporate ventures carried at equity in 1989 was roughly that of 1988. Increases from Industrial Gases and Carbon Products corporate ventures in Mexico were offset by a decline in income from KEMET Electronics Corporation. Equity income in 1988 was well over twice the level of income in 1987. Substantially improved results from corporate ventures in our core business groups in Mexico, Japan (Chemicals & Plastics) and Spain (Industrial Gases), as well as excellent performance from KEMET Electronics Corporation, all contributed to this increase. Equity income in 1987 was \$14 million, the same as in 1986. Improved earnings of Canadian affiliates and income from KEMET Electronics Corporation were offset by increased losses of an affiliate in Mexico.

### **Liquidity, Capital Resources And Other Financial Data**

#### **Cash Flow From Operations**

Cash flow from operations decreased to \$648 million in 1989 from \$932 million in 1988 mainly as a result of a decline in net income as well as a cash payout of \$256 million, net of insurance proceeds, associated with settlement of the Bhopal litigation. Net working capital, exclusive of Bhopal effects and sales of businesses, increased from the beginning of the year. Inventory reductions were more than offset by an increase in receivables and decreases in accounts and taxes payable. Cash flow from operations in 1988 more than doubled from 1987 levels, largely as a result of improved income from operations partially offset by increases in accounts receivable and inventories related to increased sales activity.

#### **Cash Flow Used For Investing**

Cash flow used for investing includes capital expenditures and investments, offset by proceeds from the sale of assets and businesses. Net expenditures associated with investing activities increased moderately to \$548 million from \$531 million in 1988, as a result of proceeds from the sale of the urethane polyols and propylene glycols businesses and other assets, which largely offset a \$114 million increase in 1989 capital expenditures to \$785 million. Major domestic capital projects in 1989 included reactivation of an olefins unit at Taft, La., and a new polyethylene unit at Seadrift, Tex. In Brazil, major expenditures were made on a number of Industrial Gases projects. Capital expenditures in 1988 totaled \$671 million, a 34% increase over 1987. Expenditures in 1987 were \$502 million. Approximately 70% of capital spending for the last three years was in the United States and Puerto Rico. Of expenditures over the last three years, approximately 47% were directed to new capacity, 39% to cost reduction and replacement and 14% to environmental, safety and health facilities.

At December 31, 1989, the cost of completing authorized construction projects was estimated to be \$547 million, of which \$40 million is covered by firm commitments.

#### **Cash Flow Used For Financing**

Cash flow used for financing includes UCC&P and minority stockholder dividends and debt reductions offset in part by proceeds from sales of common stock pursuant to UCC's dividend reinvestment and employee savings and incentive programs. As a result of reduced net debt paydowns in 1989, cash flow used for financing decreased to \$67 million as compared



## Part II (Cont.)

with \$438 million in the prior year and \$282 million in 1987. Net debt reductions, exclusive of foreign currency effects, aggregated \$20 million in the current year as contrasted to \$376 million and \$351 million in 1988 and 1987, respectively. From a peak of \$5.6 billion at March 31, 1986, debt has been reduced by a total of \$2.9 billion at year-end 1989. During this same period, the Company's ratio of total debt to total capital has been reduced from 78.7% to 47.8%.

At December 31, 1989, UCC&P had \$1.2 billion of unused borrowing capability under existing major bank credit agreements.

Certain consolidated domestic and international subsidiaries are restricted by borrowing arrangements, regulatory restraints or the laws of national and local governments as to their ability to transfer funds to the parent in the form of cash dividends, loans or advances. At December 31, 1989, the amount of such restricted net assets was \$308 million. In addition, there are similar restrictions on unconsolidated subsidiaries of \$52 million. Under its most restrictive borrowing arrangements, the Company may not pay dividends that would reduce its consolidated tangible net worth below \$450 million.

### Effects Of Inflation

The impact of inflation on the Company's operations and financial condition has been less significant in recent years due to lower rates of inflation. In addition, the Company uses the LIFO method of accounting for a majority of the values of its inventories, which results in cost of sales approximating current costs. However, the charge for depreciation does not reflect current cost, which would have been about 20% higher than historical amounts for the most recent three years. In general, the Company believes that its programs are designed to monitor the effects of inflation and to take necessary steps to minimize its effect on operations. These steps include cost reduction and productivity improvement programs, timely price increases within the constraints of highly competitive markets and investment in more efficient facilities and production processes.

### Debt Ratios

Total debt outstanding at year-end for the past three years was:

	1989	1988	1987
Dollar amounts in millions			
Domestic	\$1,930	\$2,000	\$2,298
International	805	757	882
Total	\$2,735	\$2,757	\$3,180

Year-end ratios of total debt to total capital were:

	1989	1988	1987
Debt ratio	47.8%	53.2%	63.6%

Total debt includes short-term debt, long-term debt and the current portion of long-term debt; total capital consists of total debt plus minority stockholders' equity in consolidated subsidiaries and stockholder's equity.



## Part II (Cont.)

### Item 8. Financial Statements and Supplementary Data

#### Consolidated Statement of Income

Union Carbide Chemicals and Plastics Company Inc. and Subsidiaries

Millions of dollars, year ended December 31,	1989	1988*	1987*
Net Sales	\$8,744	\$8,324	\$6,914
Cost of sales, exclusive of depreciation shown separately below	5,875	5,480	4,788
Research and development	181	159	159
Selling, administrative and other expenses	924	807	764
Depreciation	498	473	463
Interest on long-term and short-term debt	304	300	311
Other expenses—net	84	1	50
Income Before Provision for Income Taxes	878	1,104	379
Provision for income taxes	284	415	121
Income of Consolidated Companies	594	689	258
Less: Minority stockholders' share of income	59	64	40
Plus: Company share of income of corporate ventures carried at equity	38	37	14
Net Income	\$ 573	\$ 662	\$ 232

\* Certain amounts have been reclassified to conform to the 1989 presentation (see Note 1).

The Notes to Financial Statements on pages 22 through 37 should be read in conjunction with this statement.

## Part II (Cont.)

### Consolidated Balance Sheet

Union Carbide Chemicals and Plastics Company Inc. and Subsidiaries

Millions of dollars at December 31,	1989	1988
<b>Assets</b>		
Cash and cash equivalents	\$ 142	\$ 146
Notes and accounts receivable	1,474	1,413
Inventories	262	275
Raw materials and supplies	207	191
Work in process	463	566
Finished goods	932	1,032
Prepaid expenses	239	292
<b>Total Current Assets</b>	<b>2,787</b>	<b>2,883</b>
Property, plant and equipment	9,530	9,009
Less: Accumulated depreciation	4,946	4,593
<b>Net Fixed Assets</b>	<b>4,584</b>	<b>4,416</b>
Companies carried at equity	727	680
Other investments and advances	135	139
<b>Total Investments and Advances</b>	<b>862</b>	<b>819</b>
Other assets	313	323
<b>Total Assets</b>	<b>\$8,546</b>	<b>\$8,441</b>
<b>Liabilities and Stockholder's Equity</b>		
Accounts payable	\$ 677	\$ 756
Due to Union Carbide Corporation (parent)	55	—
Short-term debt	445	270
Payments due within one year on long-term debt	210	192
Accrued income and other taxes	146	193
Other accrued liabilities	833	1,044
<b>Total Current Liabilities</b>	<b>2,366</b>	<b>2,455</b>
Long-term debt	2,080	2,295
Other long-term obligations	342	355
Deferred credits	807	915
Minority stockholders' equity in consolidated subsidiaries	606	585
Stockholder's equity		
Common stock		
Authorized—500,000,000 shares	—	214
Issued—100 shares (214,409,782 shares in 1988)	—	1,322
Additional paid-in capital	(90)	(106)
Equity adjustment from foreign currency translation	2,435	2,605
Retained earnings	2,345	4,035
Less: Treasury stock, at cost—none in 1989 (76,808,221 shares in 1988)	—	2,199
<b>Total Stockholder's Equity</b>	<b>2,345</b>	<b>1,836</b>
<b>Total Liabilities and Stockholder's Equity</b>	<b>\$8,546</b>	<b>\$8,441</b>

The Notes to Financial Statements on pages 22 through 37 should be read in conjunction with this statement.

## Part II (Cont.)

### Consolidated Statement of Cash Flows

Union Carbide Chemicals and Plastics Company Inc. and Subsidiaries

Increase (Decrease) in Cash and Cash Equivalents

Millions of dollars, year ended December 31,

	1989	1988 <sup>a</sup>	1987 <sup>a</sup>
<b>Operations</b>			
Net income	\$ 573	\$ 662	\$ 232
Non-cash charges (credits) to net income			
Depreciation	498	473	463
Deferred income taxes	51	114	(59)
Other non-cash charges (credits)	120	(6)	38
Investing credits to net income	(107)	(24)	(52)
Working capital <sup>b</sup>	(434)	137	(284)
Long-term assets and liabilities	(53)	(424)	123
<b>Cash flow from operations</b>	<b>648</b>	<b>932</b>	<b>461</b>
<b>Investing</b>			
Capital expenditures	(785)	(671)	(502)
Investments	(89)	(79)	(120)
Redemption/sale of assets	326	219	352
<b>Cash flow used for investing</b>	<b>(548)</b>	<b>(531)</b>	<b>(270)</b>
<b>Financing</b>			
Short-term debt	182	62	(114)
Net borrowings—principally major bank credit agreements	33	(190)	(888)
Other long-term borrowings	624	396	1,145
Preferred stock issued by a consolidated subsidiary	—	—	244
Issuance of common stock	58	108	78
Long-term debt reductions	(859)	(644)	(494)
Minority transactions and other	(20)	(15)	(58)
Net cash transfer from Union Carbide Corporation (parent)	55	—	—
Cash dividends	(140) <sup>c</sup>	(155)	(195)
<b>Cash flow used for financing</b>	<b>(67)</b>	<b>(438)</b>	<b>(282)</b>
<b>Effect of exchange rate changes on cash and cash equivalents</b>	<b>(37)</b>	<b>(18)</b>	<b>(7)</b>
<b>Change in cash and cash equivalents</b>	<b>(4)</b>	<b>(55)</b>	<b>(98)</b>
Cash and cash equivalents beginning-of-year	146	201	299
<b>Cash and cash equivalents end-of-year</b>	<b>\$ 142</b>	<b>\$ 146</b>	<b>\$ 201</b>

<sup>a</sup> Certain amounts have been reclassified to conform to the 1989 presentation (see Note 1).

<sup>b</sup> Net change in working capital by component (excluding cash and cash equivalents, deferred income taxes, and short-term debt):

	1989	1988	1987
(Increase) decrease in current assets			
Notes and accounts receivable	\$(102)	\$(215)	\$(249)
Inventories	54	(246)	(132)
Prepaid expenses	17	(1)	(14)
Increase (decrease) in payables and accruals	(403)	599	111
<b>Working capital</b>	<b>\$(434)</b>	<b>\$ 137</b>	<b>\$(284)</b>

<sup>c</sup> Represents \$69 million paid to stockholders in the six months ended June 30, 1989 and \$71 million paid to UCC subsequent to the holding company formation effected as of July 1, 1989 (see Note 2).

The Notes to Financial Statements on pages 22 through 37 should be read in conjunction with this statement.



## Part II (Cont.)

### Consolidated Statement of Stockholder's Equity

Union Carbide Chemicals and Plastics Company Inc. and Subsidiaries

	1989		1988		1987	
	Shares (in thousands)	Millions of dollars	Shares (in thousands)	Millions of dollars	Shares (in thousands)	Millions of dollars
Common Stock Balance at January 1	214,410	\$ 214	209,071	\$ 209	205,301	\$ 205
Issued:						
For the Dividend Reinvestment and Stock Purchase Plan	715	1	3,218	3	1,517	2
For employee savings and incentive plans	1,112	1	2,121	2	2,049	2
For conversion of convertible debentures	—	—	—	—	204	—
Retirement of treasury shares	(76,224)	(76)	—	—	—	—
Retirement of common shares	(140,013)	(140)	—	—	—	—
Balance at December 31	*	\$ *	214,410	\$ 214	209,071	\$ 209
Treasury Stock Balance at January 1	76,808	\$ 2,199	76,823	\$ 2,200	77,606	\$ 2,222
Issued:						
For the Dividend Reinvestment and Stock Purchase Plan	(11)	—	—	—	(485)	(14)
For employee savings and incentive plans	(573)	(16)	(15)	(1)	(293)	(8)
For conversion of convertible debentures	—	—	—	—	(5)	—
Retirement of treasury shares	(76,224)	(2,183)	—	—	—	—
Balance at December 31	—	\$ —	76,808	\$ 2,199	76,823	\$ 2,200
Additional Paid-In Capital Balance at January 1		\$ 1,322		\$ 1,215		\$ 1,144
Issued:						
For the Dividend Reinvestment and Stock Purchase Plan		18		69		33
For employee savings and incentive plans		19		38		30
For conversion of convertible debentures		—		—		8
Retirement of treasury shares		(1,359)		—		—
Balance at December 31		\$ —		\$ 1,322		\$ 1,215
Equity Adjustment from Foreign Currency Translation		\$ (106)		\$ (75)		\$ (183)
Balance at January 1		16		(31)		108
Translation and other adjustments						
Balance at December 31		\$ (90)		\$ (106)		\$ (75)
Retained Earnings Balance at January 1		\$ 2,605		\$ 2,098		\$ 2,061
Net income		573		662		232
Cash dividends		(140)		(155)		(195)
Retirement of treasury shares		(606)		—		—
Adjustment to the 1986 Special Cash Distribution		3		—		—
Balance at December 31		\$ 2,435		\$ 2,605		\$ 2,098

\* At December 31, 1989, 100 shares of common stock (total value—\$100) were outstanding.

The Notes to Financial Statements on pages 22 through 37 should be read in conjunction with this statement.

## Part II (Cont.)

### Notes to Financial Statements

#### Index

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#### 1. Summary of Significant Accounting Policies

**Principles of Consolidation**—The consolidated financial statements include the accounts of all significant subsidiaries except Union Carbide India Limited and two subsidiaries in Zimbabwe, which are included in *Other investments and advances*. All significant intercompany transactions have been eliminated in consolidation. Investments in significant companies 20% to 50% owned and partnerships are carried at equity in net assets. In the *Consolidated Statement of Income*, the Company's share of the net income of the 20% to 50% owned companies is reported under the caption *Company share of income of corporate ventures carried at equity* and pre-tax partnership income is included in *Other expenses—net*. Other investments are carried generally at cost or less.

**Foreign Currency Translation**—Generally, except for Latin America, unrealized gains and losses resulting from translating foreign subsidiaries' assets and liabilities into U.S. dollars are accumulated in an equity account on the balance sheet until such time as the subsidiary is sold or substantially or completely liquidated. Translation gains and losses relating to operations of subsidiaries in Latin America, where hyperinflation exists, are included in the income statement.

**Cash Equivalents**—The Company considers cash equivalents to be all highly liquid investments that are readily convertible to known amounts of cash and so near their maturity that they present insignificant risk of changes in value because of changes in interest rates.

**Inventories**—Inventories are stated at cost or market, whichever is lower. These amounts do not include depreciation, the impact of which is not significant to the financial statements. Cost is determined generally on the "last-in, first-out" (LIFO) method for North American companies. The "average cost" method is used by most other subsidiaries.

## Part II (Cont.)

Approximately 59% of inventory amounts before application of the LIFO method at December 31, 1989 (53% at December 31, 1988) has been valued on the LIFO basis. It is estimated that if inventories had been valued at current costs, they would have been approximately \$466 million and \$445 million higher than reported at December 31, 1989, and December 31, 1988, respectively.

**Fixed Assets and Depreciation**—Fixed assets are carried at cost. Expenditures for replacements are capitalized and the replaced items are retired. Gains and losses from the sale of property are included in income.

Depreciation is calculated on a straight-line basis. The Company and its subsidiaries generally use accelerated depreciation methods for tax purposes where appropriate.

**Patents, Trademarks and Goodwill**—Amounts paid for purchased patents and newly acquired subsidiaries in excess of the fair value of the net assets of such subsidiaries have been charged to patents, trademarks and goodwill. The portion of such amounts determined to be attributable to patents is amortized over their remaining lives while trademarks and goodwill are amortized over the estimated period of benefit, generally five to forty years.

**Research and Development**—Research and development costs are charged to expense as incurred. Depreciation expense applicable to research and development facilities and equipment is included in *Depreciation* in the income statement (\$12 million in 1989 and \$13 million in 1988 and 1987).

**Income Taxes**—Provision has been made for deferred income taxes where differences exist between the period in which transactions affect taxable income and the period in which they enter into the determination of income in the financial statements.

**Retirement Programs**—The cost of pension benefits under UCC's Retirement Program in which UCC&P participates, is determined by an independent actuarial firm using the "projected unit credit" actuarial cost method with an unrecognized net asset at January 1, 1986, amortized over 15 years. Contributions to this program are made in accordance with the regulations of the Employee Retirement Income Security Act of 1974.

In 1988, UCC adopted Statement of Financial Accounting Standards No. 87, *Employers' Accounting for Pensions* (SFAS 87), for defined benefit plans outside the U.S. (see Note 14). Previously, UCC had adopted SFAS 87 for its U.S. retirement program.

**Earnings Per Share**—Earnings per share have not been presented since the Company is a wholly-owned subsidiary of Union Carbide Corporation and there is no established public trading market for the Company's common stock.

**Reclassification**—Beginning in 1989, foreign currency gains on debt and prior period tax liabilities of affiliates operating in hyperinflationary countries in Latin America have been included in *Interest on long-term and short-term debt* and *Provision for income taxes*, respectively, rather than in *Other expenses—net*. Prior year amounts have been reclassified to conform to the 1989 presentation. This basis of presentation acknowledges that foreign currency gains on debt and prior period taxes payable, in those Latin American countries in which the Company operates, have historically been offset by related interest and tax expense. Additionally, certain other prior year amounts in the Consolidated Statements of Income and Cash Flows have been reclassified to conform to the 1989 presentation.

## Part II (Cont.)

### 2. Corporate Realignment

Effective July 1, 1989, the Company became a wholly-owned subsidiary of a new holding company established through a binding share exchange. Following the exchange, the holding company took the name "Union Carbide Corporation" and the Company changed its name from Union Carbide Corporation to "Union Carbide Chemicals and Plastics Company Inc." Effective January 1, 1989, Union Carbide Industrial Gases Inc. and UCAR Carbon Company Inc. became wholly-owned subsidiaries of the Company as part of the ongoing corporate realignment.

### 3. Segment Information

#### Industry Segments

(Millions of dollars)

<b>Sales</b>	<b>1989</b>	<b>1988</b>	<b>1987</b>
Chemicals & Plastics	\$5,613	\$5,525	\$4,325
Industrial Gases	2,349	2,076	1,872
Carbon Products	782	723	619
Other	—	—	98
<b>Total UCC&amp;P</b>	<b>\$8,744</b>	<b>\$8,324</b>	<b>\$6,914</b>
<b>Operating profit</b>	<b>1989</b>	<b>1988</b>	<b>1987</b>
Chemicals & Plastics	\$1,003	\$1,204	\$ 534
Industrial Gases	222	230	237
Carbon Products	44	46	20
Other	—	—	(14)
<b>Total UCC&amp;P</b>	<b>\$1,269</b>	<b>\$1,480</b>	<b>\$ 777</b>
<b>Identifiable assets</b>	<b>1989</b>	<b>1988</b>	<b>1987</b>
Chemicals & Plastics	\$4,068	\$3,995	\$3,506
Industrial Gases	2,771	2,599	2,490
Carbon Products	815	814	829
Other	521	674	533
<b>Total UCC&amp;P</b>	<b>\$8,175</b>	<b>\$8,082</b>	<b>\$7,358</b>
<b>Capital</b>	<b>1989</b>	<b>1988</b>	<b>1987</b>
Chemicals & Plastics	\$2,877	\$2,748	\$2,439
Industrial Gases	2,104	2,001	1,922
Carbon Products	636	636	659
All Other	107	(207)	(22)
<b>Total UCC&amp;P</b>	<b>\$5,724</b>	<b>\$5,178</b>	<b>\$4,998</b>
<b>Depreciation</b>	<b>1989</b>	<b>1988</b>	<b>1987</b>
Chemicals & Plastics	\$ 252	\$ 243	\$ 239
Industrial Gases	189	176	168
Carbon Products	48	43	40
Other	9	11	16
<b>Total UCC&amp;P</b>	<b>\$ 498</b>	<b>\$ 473</b>	<b>\$ 463</b>
<b>Capital expenditures</b>	<b>1989</b>	<b>1988</b>	<b>1987</b>
Chemicals & Plastics	\$ 457	\$ 372	\$ 190
Industrial Gases	255	247	272
Carbon Products	47	44	37
Other	26	8	3
<b>Total UCC&amp;P</b>	<b>\$ 785</b>	<b>\$ 671</b>	<b>\$ 502</b>

## Part II (Cont.)

### 3. Segment Information (Cont.)

#### Geographic Segments

(Millions of dollars)

Sales	1989	1988	1987
United States & Puerto Rico	\$5,793	\$5,758	\$4,778
Canada	463	429	298
Europe	1,053	929	876
Latin America	961	777	638
Far East & Other	474	431	324
International operations	2,951	2,566	2,136
Total UCC&P	\$8,744	\$8,324	\$6,914
Operating profit	1989	1988	1987
United States & Puerto Rico	\$ 917	\$1,142	\$ 567
Canada	106	113	57
Europe	73	61	30
Latin America	144	142	106
Far East & Other	29	22	16
International operations	352	338	209
Inter-segment eliminations	—	—	1
Total UCC&P	\$1,269	\$1,480	\$ 777
Identifiable assets	1989	1988	1987
United States & Puerto Rico	\$5,707	\$5,507	\$4,709
Canada	803	770	618
Europe	1,406	1,228	1,238
Latin America	940	822	776
Far East & Other	333	409	426
International operations	3,482	3,229	3,058
Inter-segment eliminations	(1,014)	(654)	(409)
Total UCC&P	\$8,175	\$8,082	\$7,358

Beginning in 1989, operating profit has been adjusted to (1) exclude foreign currency gains on debt and prior period tax liabilities of international affiliates operating in hyperinflationary countries in Latin America, principally Brazil (see Note 1 on page 22), (2) include investment income of operating affiliates and (3) include an allocable share of corporate overhead expenses. In addition, certain reclassifications have been made to conform the segment data to the realigned structure of the worldwide businesses. Prior year amounts have been restated to conform to the 1989 presentation. These reclassifications and adjustments have no impact on UCC&P's net income as previously reported.

The Company's businesses and products are described on pages 1, 2 and 5 through 8 of this Form 10-K Report.



## Part II (Cont.)

### 3. Segment Information (Cont.)

Segment sales as presented are to customers. Transfers between segments were as follows:

Millions of dollars	1989	1988	1987
<b>Industry Segments</b>			
From Chemicals & Plastics	\$ 22	\$ 14	\$ 15
From Industrial Gases	32	36	33
From Carbon Products	20	3	3
Total between segments	\$ 74	\$ 53	\$ 51
<b>Geographic Segments</b>			
From U.S. & Puerto Rico:			
Chemicals & Plastics	\$ 587	\$ 519	\$ 405
Industrial Gases	27	25	24
Carbon Products	36	40	31
	650	584	460
From other geographic segments	178	170	137
Total between segments	\$ 828	\$ 754	\$ 597

Products are transferred between segments at the estimated market value of the products.

The following table reconciles segment operating profit with the consolidated financial statements. (The term *operating profit* is used as defined in Statement of Financial Accounting Standards No. 14.)

Millions of dollars	1989	1988	1987
Total segment operating profit	\$1,269	\$1,480	\$ 777
Less: General expenses—net	87	76	87
Interest on long-term and short-term debt	304	300	311
Income before provision for income taxes	\$ 878	\$1,104	\$ 379

The following table reconciles total identifiable assets with the consolidated financial statements:

Millions of dollars	1989	1988	1987
Total identifiable assets	\$8,175	\$8,082	\$7,358
Investments and advances	164	155	267
Corporate assets	207	204	267
Total UCC&P	\$8,546	\$8,441	\$7,892

Operating profit includes the Company's share of income before income taxes from partnership joint ventures carried at equity as follows:

Millions of dollars	1989	1988	1987
Chemicals & Plastics	\$ 82	\$ 95	\$ 16
Industrial Gases	3	1	(1)

## Part II (Cont.)

### 3. Segment Information (Cont.)

The Company's investments in corporate ventures carried at equity and non-consolidated partnership joint ventures have been attributed to industry segment identifiable assets. The Company's most significant Chemicals & Plastics unincorporated ventures include Petromont and Company, Limited (a partnership interest of a Canadian subsidiary), World Ethanol Company, UOP and a Carbide/Shell polypropylene partnership.

The 1989 operating profit of the Chemicals & Plastics and United States & Puerto Rico segments includes a gain of \$101 million from the sale of the worldwide urethane polyols and propylene glycols businesses and a charge of \$90 million resulting from a write-down to net realizable value of the polysilicon business. The 1988 operating profit of the Chemicals & Plastics and Canada segments includes a \$13 million charge for impairment of assets related to a Canadian film products business.

The 1989 operating profit of the Industrial Gases and United States & Puerto Rico segments includes a \$73 million charge for restructuring costs, and the 1988 operating profit for these segments includes a \$10 million charge for impairment of assets related to an enhanced oil recovery project.

### 4. Other Expenses—Net

The following is an analysis of *Other expenses—net*:

Millions of dollars	1989	1988	1987
Investment income (principally from short-term investments)	\$ (76)	\$ (69)	\$ (47)
Foreign currency adjustments <sup>a</sup>	127	102	74
Restructuring and realignment costs <sup>b</sup>	83	—	—
Special litigation costs <sup>c</sup>	—	48	65
Sales and disposals of businesses and other assets <sup>d</sup>	(111)	(33)	(19)
Partnership income	(85)	(96)	(15)
Other <sup>e</sup>	146	49	(8)
	\$ 84	\$ 1	\$ 50

<sup>a</sup> Excludes for 1989, \$110 million of foreign currency net gains on Latin American debt (\$101 million in 1988 and \$72 million in 1987) and \$28 million of foreign currency net gains on Latin American prior period taxes payable (\$24 million in 1988 and \$12 million in 1987). See Note 1.

<sup>b</sup> Mainly represents facility shutdown costs and severance and relocation benefits associated with restructuring the U.S. bulk and packaged gas businesses of Industrial Gases. Also included are costs involved in completing the worldwide realignment of UCC's core businesses as subsidiaries, and the cost of restructuring a Carbon Products facility in Canada.

<sup>c</sup> Represents accruals to cover reserves for litigation contingencies, including product liability, patents, trade regulation, and the Bhopal litigation (see Note 15).

<sup>d</sup> Includes for 1989 a gain of \$96 million from the sale of the worldwide urethane polyols and propylene glycols businesses. Includes for 1988 a gain of \$20 million from sales of securities by Canadian subsidiaries.

<sup>e</sup> Includes for 1989 a \$90 million write-down to net realizable value of the polysilicon business. Includes for 1988 a \$13 million charge for impairment of assets related to a Canadian film products business and a \$10 million charge for impairment of assets related to an enhanced oil recovery project. Includes for 1987 a \$14 million write-down of Canadian subsidiaries' investments in securities. Additionally, interest income and other miscellaneous income and expense items are included in the amounts for all years presented.

### 5. Interest Costs

The following is an analysis of *Interest on long-term and short-term debt*:

Millions of dollars	1989	1988	1987
Interest incurred on debt	\$ 432	\$ 419	\$ 395
Less: Related foreign currency adjustments	110	101	72
Interest capitalized	18	18	12
	\$ 304	\$ 300	\$ 311

## Part II (Cont.)

### 6. Income Taxes

The following is an analysis of income tax expense:

Millions of dollars	1989		1988		1987	
	Current	Deferred	Current	Deferred	Current	Deferred
U.S. Federal income taxes	\$ 84	\$ 47	\$223	\$ 46	\$104	\$ (49)
U.S. business and research and experimentation tax credits	(4)	—	(58)	57	—	(8)
U.S. state and local taxes based on income	26	—	30	—	3	—
Non-U.S. income taxes	127	4	106	11	73	(2)
	\$233	\$ 51	\$301	\$114	\$180	\$ (59)
Provision for income taxes	\$284		\$415		\$121	

The following table summarizes the tax effects of timing differences included in the deferred portion of the provision for income taxes:

Millions of dollars	1989	1988	1987
U.S.			
Pension adjustments	\$ 15	\$ 39	\$ (2)
Depreciation	(62)	(17)	19
Inventory—uniform capitalization	(4)	(7)	(24)
Deferred gain on sale of assets	(4)	(3)	28
Special litigation accrual	44	(15)	(12)
Write-offs/write-downs of assets	47	19	(18)
Business credits	—	57	(8)
Restructuring costs	(25)	—	—
Other, net	36	30	(40)
Non-U.S.			
Depreciation	7	10	14
Other, net	(3)	1	(16)
	\$ 51	\$ 114	\$ (59)

The consolidated effective income tax rate was 32.3% in 1989, 37.6% in 1988 and 31.9% in 1987. An analysis of the difference between the *Provision for income taxes* and the amount computed by applying the statutory Federal income tax rate to income before provision for income taxes is as follows:

	1989		1988		1987	
	Millions of dollars	% of pre-tax income	Millions of dollars	% of pre-tax income	Millions of dollars	% of pre-tax income
Tax at statutory Federal rate	\$298	34.0	\$376	34.0	\$151	40.0
Taxes related to operations outside the United States	13	1.4	14	1.3	(2)	(0.6)
U.S. business and research and experimentation tax credits	(4)	(0.5)	(1)	(0.1)	(8)	(2.1)
U.S. state and local taxes based on income	17	1.9	20	1.8	2	0.5
Foreign Sales Corporation	(17)	(1.9)	(11)	(1.0)	(7)	(1.8)
Reversal of timing differences	(14)	(1.6)	32	2.9	6	1.5
Adjustments to 1986 sales of businesses	(2)	(0.2)	—	—	(9)	(2.4)
Other, net	(7)	(0.8)	(15)	(1.3)	(12)	(3.2)
	\$284	32.3	\$415	37.6	\$121	31.9

## Part II (Cont.)

### 6. Income Taxes (Cont.)

The Company plans to adopt SFAS 96, Accounting for Income Taxes, in 1992. Had the new standard been adopted in 1989, there would not have been a material effect on 1989 net income, nor would there have been a material impact at the beginning of the year for the cumulative adjustment required upon implementation of the standard.

The following is a summary of the U.S. and Non-U.S. components of *Income Before Provision for Income Taxes*:

Millions of dollars	1989	1988	1987
Income before provision for income taxes:			
U.S.	\$ 616	\$ 792	\$ 215
Non-U.S.	262	312	164
	\$ 878	\$1,104	\$ 379

The Company provides for taxes on undistributed earnings of affiliates included in consolidated retained earnings to the extent that such earnings are planned to be remitted and not reinvested indefinitely. Undistributed earnings of affiliates intended to be reinvested indefinitely amounted to \$1.1 billion at December 31, 1989.

## Part II (Cont.)

### 7. Supplementary Balance Sheet Detail

Millions of dollars at December 31,	1989	1988
Notes and accounts receivable		
Trade <sup>a</sup>	\$1,227	\$1,241
Other	282	213
	\$1,509	\$1,454
Less: Allowance for doubtful accounts	35	41
	\$1,474	\$1,413
Fixed assets		
Land and improvements	\$ 414	\$ 415
Buildings	771	762
Machinery and equipment	7,747	7,361
Construction in progress and other	598	471
	\$9,530	\$9,009
Other assets		
Deferred charges	\$ 174	\$ 172
Long-term receivables	76	99
Patents, trademarks and goodwill	63	52
	\$ 313	\$ 323
Other accrued liabilities		
Accrued accounts payable	\$ 302	\$ 404
Payrolls	109	111
Bhopal settlement accrual	—	237
Other	422	292
	\$ 833	\$1,044
Other long-term obligations		
Accrued pension cost	\$ 8	\$ 41
Other	334	314
	\$ 342	\$ 355
Deferred credits		
Income taxes <sup>b</sup>	\$ 634	\$ 732
Deferred gain on sales of the Danbury Headquarters and Tarrytown properties	118	128
Other	55	55
	\$ 807	\$ 915
Equity adjustment from foreign currency translation (by geographic area)		
Canada	\$ (22)	\$ (27)
Europe	(45)	(62)
Far East & Other	(23)	(17)
	\$ (90)	\$ (106)

<sup>a</sup> UCC&P sold certain receivables with recourse to various banks for proceeds of \$621 million in 1989, \$415 million in 1988 and \$801 million in 1987. At December 31, 1989, approximately \$28 million remains uncollected (\$65 million in 1988). Of the 1989 amount, \$14 million is included in contingent obligations (\$27 million in 1988). See Note 15.

<sup>b</sup> Deferred income taxes related to current items are included in *Prepaid expenses* in the amount of \$136 million in 1989 (\$172 million in 1988).

## Part II (Cont.)

### 8. Supplementary Cash Flow Detail

#### Investing

Increase (decrease) in cash and cash equivalents

Millions of dollars	1989	1988	1987
Redemption/Sale of Assets			
Hedging activities—net	\$ (1)	\$ (10)	\$ 27
Investments redeemed	66	162	25
Sale of fixed and other assets	261	67	300
	\$ 326	\$ 219	\$ 352

#### Financing

Increase (decrease) in cash and cash equivalents

Millions of dollars	1989	1988	1987
Short-Term Debt			
Net change in short-term debt (maturities of three months or less)	\$ 127	\$ 70	\$ 80
Borrowings	242	87	66
Reductions	(187)	(95)	(260)
	\$ 182	\$ 62	\$ (114)
Net Borrowings—Principally Major Bank Credit Agreements*			
Borrowings	\$3,522	\$ 727	\$ 322
Reductions	(3,489)	(917)	(1,210)
	\$ 33	\$ (190)	\$ (888)

#### Minority Transactions and Other

Redemption of preferred stock held by minority interest	\$ —	\$ —	\$ (45)
Dividends to minority stockholders	(21)	(16)	(15)
Other	1	1	2
	\$ (20)	\$ (15)	\$ (58)

#### Cash Paid for Interest and Income Taxes

Millions of dollars	1989	1988	1987
Interest (net of amount capitalized)	\$ 334	\$ 405	\$ 393
Income taxes	\$ 288	\$ 212	\$ 74

\*Includes money market loans supported by credit agreements.

#### Non-Cash Investing and Financing Activities

In 1988, the Company exchanged \$284 million of net assets for equity positions in two joint ventures.

## Part II (Cont.)

### 9. Companies Carried at Equity

The following are financial summaries of companies carried at equity:

Millions of dollars	Partnerships		
	1989	1988	1987
Net sales <sup>a</sup>	\$1,526	\$ 992	\$ 286
Cost of sales	940	582	199
Depreciation	44	29	17
Partnership income	158	178	52
Company's share of partnership income <sup>b</sup>	85	96	15
Current assets	\$ 607	\$ 496	\$ 114
Non-current assets	652	698	115
Total assets	\$1,259	\$1,194	\$ 229
Current liabilities	\$ 207	\$ 217	\$ 16
Non-current liabilities	303	331	52
Total liabilities	\$ 510	\$ 548	\$ 68
Net assets	\$ 749	\$ 646	\$ 161
Company's equity	\$ 368	\$ 356	\$ 44

<sup>a</sup> Includes \$87 million net sales to the Company and its consolidated subsidiaries in 1989 (\$118 million in 1988 and \$42 million in 1987).

<sup>b</sup> The Company's share of partnership income has been reported in *Other expenses—net* (see Note 4) and in segment operating profit.

Millions of dollars	Corporate Ventures		
	1989	1988	1987
Net sales*	\$1,369	\$1,279	\$1,226
Cost of sales	889	817	876
Depreciation	74	72	65
Net income	82	83	19
Company's share of net income	38	37	14
Current assets	\$ 659	\$ 636	\$ 698
Non-current assets	854	838	879
Total assets	\$1,513	\$1,474	\$1,577
Current liabilities	\$ 477	\$ 459	\$ 516
Non-current liabilities	331	368	434
Total liabilities	\$ 808	\$ 827	\$ 950
Net assets	\$ 705	\$ 647	\$ 627
Company's equity	\$ 359	\$ 324	\$ 343

\*Includes \$64 million net sales to the Company and its consolidated subsidiaries in 1989 (\$61 million in 1988 and \$50 million in 1987).

## Part II (Cont.)

### 10. International Subsidiaries

The following is a financial summary of consolidated international subsidiaries:

Millions of dollars	1989	1988	1987
Net sales	\$2,951	\$2,566	\$2,136
Net income	\$ 132	\$ 184	\$ 84
Company's share	\$ 91	\$ 136	\$ 48
Total assets	\$3,250	\$3,086	\$3,066
Less: Total liabilities	1,766	1,693	1,683
Net assets	\$1,484	\$1,393	\$1,383
Company's equity	\$1,152	\$1,083	\$1,077

### 11. Long-Term Debt

Millions of dollars at December 31,	1989	1988
<b>DOMESTIC</b>		
5.30% Sinking Fund Debentures, with equal annual sinking fund payments to 1997	\$ 100	\$ 112
7.50% Sinking Fund Debentures due 2006, issued at a discount (effective rate 7.55%) with annual sinking fund payments, 1990 to 2005	174	183
7.50% Convertible Subordinated Debentures due 2012, convertible into common stock at \$35.50 per share	345	345
8.50% Sinking Fund Debentures due 2005, with annual sinking fund payments, 1990 to 2004	250	263
8.60% Senior Notes due 1989	—	95
9.10% Senior Notes due 1990	105	105
9.35% Sinking Fund Debentures due 2009, with annual sinking fund payments, 1990 to 2008	200	200
9.35% Senior Notes due 1992	150	150
9.75% Senior Subordinated Notes due 1994	350	350
13.25% Senior Notes due 1993, issued at a discount (effective rate 13.79%)	64	64
14.25% Senior Notes due 1996, issued at a premium (effective rate 13.98%)	19	19
15.00% Senior Debentures due 2006, issued at a premium (effective rate 14.32%)	12	17
Borrowings under major bank credit agreements and money market loans	92	39
Pollution control and other facility obligations	186	178
Obligations under capital leases	35	38
Other debt—various maturities and interest rates	8	18
<b>INTERNATIONAL SUBSIDIARIES</b>		
Canadian Dollar loans and obligations due in varying installments through 1995 with interest at 8.38% to 10.75%	118	160
Canadian Dollar sale and leaseback financing due 2017, subject to redemption at holders' option in September 1992	107	105
Borrowings under major bank credit agreements	23	43
Obligations under capital leases	49	60
Other debt—various maturities and interest rates	73	136
	2,460	2,680
Less: Bonds held for sinking fund	170	193
	2,290	2,487
Less: Payments due within one year	210	192
	\$2,080	\$2,295



## Part II (Cont.)

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### 11. Long-Term Debt (Cont.)

In January 1990, the Company redeemed at par value all \$64 million of the 13.25% Senior Notes due 1993.

UCC&P has major domestic and international bank credit agreements totaling \$1,359 million, of which \$350 million is committed until December 1990, \$130 million is committed until June 1991, with the remainder committed principally until December 1994. At December 31, 1989, UCC&P had \$1,244 million of unused borrowing capability under the agreements. The Company's borrowings under two of these major bank credit agreements are guaranteed by UCC.

Under the agreements, options are available to borrow at various rates, on a revolving basis in most cases. The effective interest rate on borrowings under the agreements was approximately 8.9% in 1989 (7.8% in 1988 and 8.0% in 1987).

Certain of these bank credit agreements and the indentures for debt contain various restrictive covenants. These covenants, among other things, restrict the ability of the Company to merge with another entity, incur or guarantee debt, create liens against assets, sell or transfer certain assets, pay dividends or make other distributions beyond certain limits with respect to the Company's capital stock, sell shares of a subsidiary's capital stock or issue preferred stock of a subsidiary. Also, certain bank credit agreements require Union Carbide to meet leverage and interest coverage ratios.

Pollution control and other facility obligations represent state, commonwealth and local governmental bond financing of pollution control and other facilities, and are treated for accounting and tax purposes as debt of the Company. These tax-exempt obligations mature at various dates from 1990 through 2013, and have an average annual effective interest rate of 7.36%.

At December 31, 1989, \$294 million of consolidated assets was pledged as security for \$217 million of subsidiaries' debt.

Payments due on long-term debt in the four years after 1990 are: 1991, \$34 million; 1992, \$190 million; 1993, \$142 million; 1994, \$394 million.

At December 31, 1989, UCC&P had outstanding interest rate swap agreements which effectively converted \$698 million of fixed rate debt with interest rates ranging from 9.35% to 15% to floating rate debt. Under the agreements, which have a remaining average maturity of approximately two years, UCC&P makes payments to counterparties at variable rates based on LIBOR and in return receives payments based on fixed interest rates. The agreements resulted in an average annual effective interest rate of approximately 11.41% on the \$698 million of debt (11.23% in 1988 on \$701 million of debt).

### 12. Stockholder's Equity

At December 31, 1989, *Retained earnings* included \$289 million (\$239 million at December 31, 1988), representing the Company's share of undistributed earnings of 20% to 50% owned companies accounted for by the equity method. Dividends received from companies carried at equity aggregated \$8 million in 1989, \$7 million in 1988 and \$6 million in 1987.

Certain consolidated domestic and international subsidiaries are restricted by borrowing arrangements, regulatory restraints or the laws of local governments as to their ability to transfer funds to the parent in the form of cash dividends, loans or advances. At December 31, 1989, the amount of such restricted net assets was \$308 million. In addition, there are similar restrictions on unconsolidated subsidiaries of \$52 million. Under its most restrictive borrowing arrangements, the Company may not pay dividends that would reduce its consolidated tangible net worth below \$450 million.

Following the exchange effected as of July 1, 1989 (see Note 2), all but 100 shares of the Company's common stock, including 76,223,798 treasury shares held immediately prior to the exchange, were retired.

## Part II (Cont.)

### 13. Leases

Leases that meet the criteria for capitalization set forth in Statement of Financial Accounting Standards No. 13 have been classified and accounted for as capital leases. For noncapitalized leases, primarily involving distribution equipment and facilities, commitments under noncancelable leases extending for one year or more will require the following future payments:

Millions of dollars					
1990	\$116	1993	\$ 92	2000-2004	\$277
1991	102	1994	73	2005-2009	101
1992	99	1995-1999	319	After 2009	8

Total lease and rental payments under noncapitalized leases extending one month or more were \$118 million in 1989 (\$111 million in 1988 and \$108 million in 1987).

### 14. Retirement Programs

The noncontributory defined benefit retirement program of UCC ("U.S. Retirement Program") covers substantially all U.S. employees and certain employees in other countries. UCC&P participates in this plan. Pension benefits are based primarily on years of service and compensation levels prior to retirement.

Pension coverage for employees of non-U.S. consolidated subsidiaries is provided, to the extent deemed appropriate, through separate plans. Obligations under such plans are systematically provided for by depositing funds with trustees, under insurance policies, or by book reserves.

In 1986, UCC adopted SFAS 87 for the U.S. Retirement Program. During 1988, SFAS 87 was adopted for the non-U.S. plans. Prior year pension amounts were not restated for this change. The effect of adopting SFAS 87 for non-U.S. plans was to reduce 1988 net pension cost by \$9 million.

U.S. Retirement Program net pension cost amounted to \$43 million in 1989, \$34 million in 1988 and \$28 million in 1987. Net pension cost for non-U.S. plans in 1989 and 1988 amounted to \$5 million and \$2 million, respectively. Pension costs of non-U.S. plans in 1987 amounted to \$14 million.

The components of net pension cost for the U.S. Retirement Program and non-U.S. plans in 1989 and 1988 and for the U.S. Retirement Program in 1987 are as follows:

Millions of dollars	1989	1988	1987
Service cost—benefits earned during the period	\$ 80	\$ 72	\$ 61
Interest cost on projected benefit obligation	183	170	129
Return on plan assets			
Actual	\$(517)	\$(225)	\$ 20
Unrecognized return	312 (205)	31 (194)	(175) (155)
Amortization of net gain	(10)	(12)	(7)
Net pension cost	\$ 48	\$ 36	\$ 28

## Part II (Cont.)

### 14. Retirement Programs (Cont.)

The funded status of the U.S. Retirement Program and non-U.S. plans was as follows:

Millions of dollars at December 31,	1989	1988
Actuarial present value of plan benefits:		
Accumulated benefit obligation, including vested benefits of \$1,871 million at December 31, 1989, and \$1,578 million at December 31, 1988	\$(1,955)	\$(1,636)
Projected benefit obligation	\$(2,462)	\$(2,100)
Fair value of plan assets, primarily invested in common stocks and fixed income securities	\$ 2,543	\$ 2,078
Plan assets in excess of (less than) projected benefit obligation	\$ 81	\$ (22)
Unamortized net asset at transition	(172)	(187)
Unamortized prior service cost	57	52
Unrecognized (gains) and losses—net	(38)	51
Accrued pension cost	\$ (72)	\$ (106)

The actuarial assumptions used were as follows:

	1989	1988
Discount rate for determining projected benefit obligation	8.0%	9.0%
Rate of increase in compensation levels	6.0%	7.0%
Expected long-term rate of return on plan assets	10.0%	10.0%

The Company and certain of its consolidated subsidiaries provide health care and life insurance benefits for eligible retired employees. These benefits are provided through various insurance companies and health care providers. The annual insurance premiums, which are based on the benefits paid during the year, are generally expensed as incurred. Total expenses for 1989 amounted to \$35 million (\$28 million in 1988 and \$29 million in 1987). Substantially all of these expenses related to domestic operations.

### 15. Commitments and Contingencies

At December 31, 1989, the Company and its consolidated subsidiaries had contingent obligations of \$472 million, principally for purchase and sale commitments related to the ordinary conduct of business and guarantees of outstanding loans and notes payable by others. It is not expected that these contingent obligations will have a material adverse effect on the consolidated financial position of the Company.

On February 24, 1989, the Company (formerly Union Carbide Corporation) and Union Carbide India Limited ("UCIL") paid the final settlement of all litigation with respect to the December 3, 1984 methyl isocyanate gas release at the UCIL plant in Bhopal, India. The \$470 million settlement was ordered by the Supreme Court of India and accepted by the Union of India, the Company and UCIL. The Company is a 50.9% shareholder of UCIL. The Company paid \$420 million and was credited an additional \$5 million for the payment in that amount made by it to the Red Cross at the suggestion of U.S. Judge John F. Keenan. UCIL paid the Rupee equivalent of \$45 million. The Supreme Court of India discharged the previous undertaking of the Company in the District Court at Bhopal to maintain unencumbered assets having a fair market value of \$3 billion. The Supreme Court quashed all criminal proceedings related to the gas release, and the Supreme Court proceedings provide that the accused are deemed acquitted. On December 22, 1989, the Supreme Court of India upheld the Bhopal Act under the Indian Constitution. The Bhopal Act was the main basis upon which the Union of India represented the victims.

## Part II (Cont.)

### 15. Commitments and Contingencies (Cont.)

Various applications remain pending in the Supreme Court of India to set aside the settlement. On January 12, 1990, the new administration of the Government of India announced that it would support these applications. The Company and its legal counsel in the United States and India believe that this settlement is final and that no basis exists to set it aside. All of the suits that were brought in the United States with respect to the gas release have been dismissed, except one suit in a state court. The settlement will be placed before that court.

In addition to the above, the Company and its consolidated subsidiaries are involved in a number of legal proceedings and claims with both private and governmental parties. These cover a wide range of matters including, but not limited to: trade regulation; product liability; utility regulation; Federal regulatory proceedings; health, safety, and environmental matters; patents and trademarks; contracts; taxes; and stockholder and debenture holder claims. In some of these cases, the remedies that may be sought or damages claimed are substantial.

While it is impossible at this time to determine with certainty the ultimate outcome of any of the litigation referred to in this note, management believes that adequate provisions have been made for probable losses with respect thereto and that such ultimate outcome, after provisions therefor, will not have a material adverse effect on the consolidated financial position of the Company. Should any losses be sustained in connection with any of the matters referred to in this note, in excess of provisions therefor, they will be charged to income in the future.

### 16. Quarterly Results (Unaudited)

Millions of dollars	1Q	2Q	3Q	4Q	Year
1989					
Net sales	\$2,241	\$2,277	\$2,141	\$2,085	\$8,744
Cost of sales <sup>a</sup>	1,476	1,528	1,435	1,436	5,875
Depreciation	124	124	124	126	498
Net income	201	186	139 <sup>b</sup>	47 <sup>c</sup>	573
1988					
Net sales	\$1,947	\$2,130	\$2,108	\$2,139	\$8,324
Cost of sales <sup>a</sup>	1,305	1,401	1,386	1,388	5,480
Depreciation	117	119	114	123	473
Net income	101	187	213	161 <sup>d</sup>	662

<sup>a</sup> Amounts differ from previously reported amounts due to a reclassification of certain costs from *Selling, administrative and other expenses*.

<sup>b</sup> Includes an after-tax gain of \$63 million from the sale of the worldwide urethane polyols and propylene glycols businesses and an after-tax charge of \$56 million resulting from a write-down to net realizable value of the polysilicon business.

<sup>c</sup> Includes an after-tax charge of \$56 million, mainly representing facility shutdown costs and severance and relocation benefits associated with restructuring the U.S. bulk and packaged gas businesses (see Note 4).

<sup>d</sup> Includes an after-tax charge of \$58 million associated with the settlement of Bhopal litigation (see Note 15).

### Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

UCC&P has not had any disagreements covered by this item with KPMG Peat Marwick, its independent auditors.

## **Part III**

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### **Item 10. Directors and Executive Officers of the Registrant**

Omitted pursuant to General Instruction J of Form 10-K.

### **Item 11. Executive Compensation**

Omitted pursuant to General Instruction J of Form 10-K.

### **Item 12. Security Ownership of Certain Beneficial Owners and Management**

Omitted pursuant to General Instruction J of Form 10-K.

### **Item 13. Certain Relationships and Related Transactions**

Omitted pursuant to General Instruction J of Form 10-K.

## Part IV

### Item 14. Exhibits, Financial Statement Schedules, and Reports on Form 8-K

(a) The following documents are filed as part of this report:

1. The following financial statements of Union Carbide Chemicals and Plastics Company Inc. are included in Part II, Item 8:

	Page in this Form 10-K Report
Consolidated Statement of Income—Years Ended December 31, 1989, 1988 and 1987	18
Consolidated Balance Sheet at December 31, 1989 and 1988	19
Consolidated Statement of Cash Flows—Years Ended December 31, 1989, 1988 and 1987	20
Consolidated Statement of Stockholder's Equity— Years Ended December 31, 1989, 1988 and 1987	21
Notes to Consolidated Financial Statements	22

2. The following schedules should be read in conjunction with the consolidated financial statements in Item 8 of this Form 10-K Annual Report. Schedules other than those listed have been omitted because they are not applicable.

	Page in this Form 10-K Report
Amounts Receivable from Related Parties and Underwriters, Promoters, and Employees Other than Related Parties—(Schedule II), three years ended December 31, 1989	40
Property, Plant, and Equipment—(Schedule V), three years ended December 31, 1989	41
Accumulated Depreciation and Amortization of Property, Plant, and Equip- ment—(Schedule VI), three years ended December 31, 1989	42
Guarantees of Securities of Other Issuers—(Schedule VII), at December 31, 1989	43
Valuation and Qualifying Accounts—(Schedule VIII), three years ended December 31, 1989	43
Short-term Borrowings—(Schedule IX), three years ended December 31, 1989	44
Supplementary Income Statement Information—(Schedule X), three years ended December 31, 1989	44

3. The Consent and Report of Independent Auditors appears on page 45 of this Annual Report on Form 10-K.
4. Exhibits—See Exhibit Index on pages 47 through 49 for exhibits filed with this Annual Report on Form 10-K.

## Part IV (Cont.)

### Schedule II—Amounts Receivable from Related Parties and Underwriters, Promoters, and Employees Other Than Related Parties

Union Carbide Chemicals and Plastics Company Inc. and Consolidated Subsidiaries

Thousands of dollars

	Balance at beginning of period	Additions <sup>(c)</sup>	Deductions <sup>(d)</sup>	Balance at end of period
Year Ended December 31, 1989				
J. S. Dewar <sup>(a)</sup>	\$151	\$ 5	\$ 77	\$ 79
Y. Takeuchi <sup>(b)</sup>	260	—	55	205
	\$411	\$ 5	\$132	\$284
Year Ended December 31, 1988				
J. S. Dewar <sup>(a)</sup>	\$139	\$ 12	\$ —	\$151
Y. Takeuchi <sup>(b)</sup>	169	148	57	260
	\$308	\$160	\$ 57	\$411
Year Ended December 31, 1987				
J. S. Dewar <sup>(a)</sup>	\$130	\$ 9	\$ —	\$139
Y. Takeuchi <sup>(b)</sup>	115	70	16	169
	\$245	\$ 79	\$ 16	\$308

<sup>(a)</sup> J. S. Dewar is a director of Union Carbide Canada Limited, a subsidiary of the Company. In 1979, Union Carbide Canada adopted a long-term stock purchase plan for its senior management employees. The plan provides for incentive awards in the form of interest-free loans for the purchase of common shares of the subsidiary.

<sup>(b)</sup> Y. Takeuchi is a director of Union Carbide Japan K.K., a subsidiary of the Company. Mr. Takeuchi has been granted a loan by Union Carbide Japan K.K. with varying interest rates and repayment dates.

<sup>(c)</sup> Represents borrowings and translation adjustments.

<sup>(d)</sup> Represents repayments and translation adjustments.

## Part IV (Cont.)

### Schedule V—Property, Plant, and Equipment

Union Carbide Chemicals and Plastics Company Inc. and Consolidated Subsidiaries

Classification	Balance at beginning of period	Additions at cost	Retirements or sales	Other changes <sup>(a)</sup> Add (deduct)	Translation adjustments	Balance at end of period
Millions of dollars, year ended December 31, 1989						
Land and improvements	\$ 415	\$ 15	\$ 6	\$ (11)	\$ 1	\$ 414
Buildings	762	27	16	(3)	1	771
Machinery and equipment	7,361	597	274	42	21	7,747
Construction in progress and other	471	146	(1)	(22)	2	598
	\$9,009	\$785	\$295	\$ 6	\$ 25	\$9,530
Millions of dollars, year ended December 31, 1988						
Land and improvements	\$ 410	\$ 14	\$ 3	\$ (6)	\$ —	\$ 415
Buildings	745	42	3	(21)	(1)	762
Machinery and equipment	7,119	507	98	(165)	(2)	7,361
Construction in progress and other	365	108	—	(3)	1	471
	\$8,639	\$671	\$104	\$(195)	\$ (2)	\$9,009
Millions of dollars, year ended December 31, 1987						
Land and improvements	\$ 405	\$ 16	\$ 12	\$ (5)	\$ 6	\$ 410
Buildings	739	35	16	(31)	18	745
Machinery and equipment	7,077	407	317	(155)	107	7,119
Construction in progress and other	337	44	5	(21)	10	365
	\$8,558	\$502	\$350	\$(212)	\$141	\$8,639

(a) All years include additions for acquired companies and certain reclassifications of property. Also, 1988 and 1987 include transfers to investments carried at equity.

(b) Following is a summary of lives used for calculating depreciation.

Class of Property	Lives Used
Land improvements	20 years
Buildings	20 to 40 years
Machinery and equipment	10 to 15 years
Leasehold improvements	Lease period



## Part IV (Cont.)

### Schedule VI—Accumulated Depreciation and Amortization of Property, Plant, and Equipment

Union Carbide Chemicals and Plastics Company Inc. and Consolidated Subsidiaries

Classification	Balance at beginning of period	Additions Charged to profit and loss	Deductions Retirements or sales	Other changes <sup>(a)</sup> Add (deduct)	Translation adjustments	Balance at end of period
Millions of dollars, year ended December 31, 1989						
Land and improvements	\$ 167	\$ 12	\$ 2	\$ (4)	\$ —	\$ 173
Buildings	351	25	9	(4)	1	364
Machinery and equipment	4,065	458	200	63	10	4,396
Construction in progress and other <sup>(b)</sup>	10	3	—	—	—	13
	\$4,593	\$498	\$211	\$ 55	\$ 11	\$4,946
Millions of dollars, year ended December 31, 1988						
Land and improvements	\$ 157	\$ 12	\$ (2)	\$ (4)	\$ —	\$ 167
Buildings	333	24	(14)	(20)	—	351
Machinery and equipment	3,728	435	74	(23)	(1)	4,065
Construction in progress and other <sup>(b)</sup>	77	2	35	(35)	1	10
	\$4,295	\$473	\$ 93	\$ (82)	\$ —	\$4,593
Millions of dollars, year ended December 31, 1987						
Land and improvements	\$ 153	\$ 12	\$ 8	\$ (2)	\$ 2	\$ 157
Buildings	328	25	14	(13)	7	333
Machinery and equipment	3,542	423	281	(12)	56	3,728
Construction in progress and other <sup>(b)</sup>	156	3	1	(81)	—	77
	\$4,179	\$463	\$304	\$(108)	\$65	\$4,295

(a) All years include additions for acquired companies and certain reclassifications of units of property. The 1989 amount principally represents accumulated depreciation resulting from the write-down to net realizable value of the polysilicon business. Also, 1988 and 1987 include transfers to investments carried at equity.

(b) Consists primarily of the amortization of leaseholds.

## Part IV (Cont.)

### Schedule VII—Guarantees of Securities of Other Issuers

Union Carbide Chemicals and Plastics Company Inc. and Consolidated Subsidiaries

Name of Issuer of Securities Guaranteed by Person for Which Statement is Filed	Title of Issue of Each Class of Securities Guaranteed	Total Amount Guaranteed and Outstanding <sup>(a)</sup>
Millions of dollars at December 31, 1989		
DCS Capital Corporation	Commercial loans	\$54 <sup>(b)</sup>

(a) See Note 15 of Notes to Financial Statements on page 36 of this Form 10-K Report. UCC&P's contingent obligations of \$472 million disclosed in Note 15 include the amount presented in this schedule.

(b) Represents the portion of the debt of DCS Capital Corporation for which the Company is responsible. Such portion is not directly guaranteed by the Company but is secured by a cash deficiency agreement that is guaranteed by the Company. The annual aggregate amount of interest for which the Company is responsible is approximately \$7 million.

### Schedule VIII—Valuation and Qualifying Accounts

Union Carbide Chemicals and Plastics Company Inc. and Consolidated Subsidiaries

	Balance at beginning of period	Additions Charged to costs and expenses	Deductions Items determined to be uncollectible, less recovery of amounts previously written off	Balance at end of period
Millions of dollars, year ended December 31, 1989				
Allowance for doubtful accounts	\$41	\$20	\$26	\$35
Millions of dollars, year ended December 31, 1988				
Allowance for doubtful accounts	\$65	\$18	\$42	\$41
Millions of dollars, year ended December 31, 1987				
Allowance for doubtful accounts	\$51	\$34	\$20	\$65

## Part IV (Cont.)

### Schedule IX—Short-Term Borrowings

Union Carbide Chemicals and Plastics Company Inc. and Consolidated Subsidiaries

Category of aggregate short-term borrowings	Balance at end of period	Weighted average interest rate <sup>(a)</sup>	Maximum month-end amount outstanding during the period	Average amount outstanding during the period <sup>(b)</sup>	Weighted average interest rate during the period <sup>(a) (b)</sup>
Dollar amounts in millions, year ended December 31, 1989					
Bank loans	\$445	13%	\$470	\$413	13%
Dollar amounts in millions, year ended December 31, 1988					
Bank loans	\$270	14%	\$378	\$299	12%
Dollar amounts in millions, year ended December 31, 1987					
Bank loans	\$264	16%	\$791	\$526	11%

(a) Beginning in 1989, foreign currency gains on debt of affiliates operating in hyperinflationary countries in Latin America have been included in interest expense. Prior year weighted average interest rates have been restated to conform to the 1989 presentation.

(b) Based on balances outstanding at the end of each month.

### Schedule X—Supplementary Income Statement Information

Union Carbide Chemicals and Plastics Company Inc. and Consolidated Subsidiaries	Millions of dollars, year ended December 31,		
	1989	1988	1987
Maintenance and repairs	\$473	\$437	\$372
Taxes other than income taxes			
Real and personal property	\$ 59	\$ 58	\$ 59
Social security	139	132	117
Other taxes	28	27	24
	\$226	\$217	\$200

## Part IV (Cont.)

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### Consent and Report of Independent Auditors

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The Board of Directors

Union Carbide Chemicals and Plastics Company Inc.

We have audited the consolidated financial statements of Union Carbide Chemicals and Plastics Company Inc. and subsidiaries as listed in the index on page 39. In connection with our audits of the consolidated financial statements, we also have audited the financial statement schedules as listed in the index on page 39. These consolidated financial statements and financial statement schedules are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements and financial statement schedules based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements and financial statement schedules are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Union Carbide Chemicals and Plastics Company Inc. and subsidiaries at December 31, 1989 and 1988, and the results of their operations and their cash flows for each of the years in the three-year period ended December 31, 1989, in conformity with generally accepted accounting principles. Also in our opinion, the related financial statement schedules, when considered in relation to the basic consolidated financial statements taken as a whole, present fairly, in all material respects, the information set forth therein.

KPMG PEAT MARWICK

Stamford, Connecticut

February 26, 1990

The Board of Directors

Union Carbide Chemicals and Plastics Company Inc.

We consent to the incorporation by reference in each of the Registration Statements of Union Carbide Chemicals and Plastics Company Inc. on Form S-3 (Nos. 33-14734 and 33-14735) of our report dated February 26, 1990, relating to the consolidated balance sheet of Union Carbide Chemicals and Plastics Company Inc. and subsidiaries as of December 31, 1989 and 1988, and the related consolidated statements of income, stockholder's equity and cash flows and related schedules for each of the years in the three-year period ended December 31, 1989, which report appears in the annual report on Form 10-K of Union Carbide Chemicals and Plastics Company Inc. for the year ended December 31, 1989.

We also consent to the reference to our firm under the heading "Experts" in each of the above referenced registration statements.

KPMG PEAT MARWICK

Stamford, Connecticut

March 26, 1990

## Signatures

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Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Company has duly caused this annual report to be signed on its behalf by the undersigned, thereunto duly authorized.

Union Carbide Chemicals and Plastics Company Inc.

March 28, 1990

John K. Wulff

*Vice-President and Principal Accounting Officer*

Pursuant to the requirements of the Securities Exchange Act of 1934, this annual report has been signed below by the following persons on behalf of the Company and in the capacities indicated on March 28, 1990.

Robert D. Kennedy  
*Chairman of the Board and Director*

John A. Clerico  
*Vice-President, Treasurer and  
Principal Financial Officer*

H. William Lichtenberger  
*President and Director*

John K. Wulff  
*Vice-President and Principal  
Accounting Officer*

O. Jules Romary  
*Director*

## Exhibit Index

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### Exhibit No.

- 3.1 Restated Certificate of Incorporation.
- 3.2 By-Laws of the Company as amended July 2, 1989.
- 4.1.1 Indenture dated as of January 1, 1986, between the Company and Manufacturers Hanover Trust Company, as Trustee, for the debt securities issued pursuant to the Company's exchange offer made on December 17, 1985, as amended on January 2, 1986 (See Exhibit 4.1 of the 1985 Form 10-K of UCC).
- 4.1.2 Second Supplemental Indenture, dated as of December 10, 1986, between the Company and Manufacturers Hanover Trust Company, as Trustee, amending the Indenture described in Exhibit No. 4.1.1 (See Exhibit 4.1.2 of the 1986 Form 10-K of UCC).
- 4.2.1 Note Purchase Agreement, dated as of December 1, 1986, among the Company and the Purchasers listed therein, and Indenture dated as of December 1, 1986, between the Company and Manufacturers Hanover Trust Company, as Trustee, for the Company's 8.60% and 9.10% Senior Notes Due 1989 and 1990, respectively (See Exhibit 4.2 of the 1986 Form 10-K of UCC).
- 4.2.2 First Supplemental Indenture, dated as of July 15, 1988, between the Company and Manufacturers Hanover Trust Company, as Trustee, amending the Indenture described in Exhibit No. 4.2.1 (See Exhibit 4(c) of the Company's Registration Statement on Form S-3, File No. 33-14734).
- 4.3 Note Purchase Agreement, dated as of April 15, 1987, among the Company and the Purchasers listed therein, and Indenture dated as of April 15, 1987, between the Company and Manufacturers Hanover Trust Company, as Trustee, for the Company's 9.35% Senior Notes due April 15, 1992 (See Exhibits 4(a) and 4(b) of the Company's Registration Statement on Form S-3, File No. 33-14735).
- 4.4 Indenture dated as of March 1, 1987, between the Company and Mellon Bank, N.A., as Trustee, for the Company's 7.5% Convertible Subordinated Debentures Due 2012 (See Exhibit 4.3 of the 1986 Form 10-K of UCC).
- 4.5 Indenture dated as of March 1, 1987, between the Company and Continental Illinois National Bank and Trust Company of Chicago, as Trustee, for the Company's 9.75% Senior Subordinated Notes Due 1994 (See Exhibit 4.4 of the 1986 Form 10-K of UCC).
- 4.6 The Company will furnish to the Commission upon request any other debt instrument referred to in Item 601(b)(4)(iii)(A) of Regulation S-K.
- 10.1.1 Multiple Option Facility agreement, dated as of December 15, 1987, among the Company, Union Carbide Eurofinance B.V., the banks listed therein, and two banks as agents (the "MOF") (See Exhibit 10.2 of the 1987 Form 10-K of UCC).
- 10.1.2 Amendment No. 1 dated as of December 31, 1987, to the MOF (See Exhibit 10.2.2 of the 1988 Form 10-K of UCC).
- 10.1.3 Amendment No. 2 dated as of January 1, 1989, to the MOF (See Exhibit 10.2.3 of the 1988 Form 10-K of UCC).
- 10.1.4 Amendment No. 3 dated as of December 28, 1989, to the MOF (See Exhibit 10.1.4 of the 1989 Form 10-K of UCC).

## Exhibit Index (Cont.)

### Exhibit No.

- 10.2 Credit Agreement, dated as of December 28, 1989, among the Company, UCC, the banks listed therein, and three banks as agents (See Exhibit 10.2 of the 1989 Form 10-K of UCC).
- 10.3.1 Rights Agreement, dated as of March 1, 1986, between the Company and Manufacturers Hanover Trust Company, as Rights Agent (See Exhibit 10.3 of the 1985 Form 10-K of UCC).
- 10.3.2 Amendment dated as of July 3, 1986, to the Rights Agreement (See Exhibit 10.3.2 of the 1986 Form 10-K of UCC).
- 10.4 Transfer Agreement, dated as of January 1, 1989, between the Company and UCAR Carbon Company Inc. (See Exhibit 10.4.1 of the 1988 Form 10-K of UCC).
- 10.5 Transfer Agreement, dated as of January 1, 1989, between the Company and Union Carbide Industrial Gases Inc. (See Exhibit 10.4.2 of the 1988 Form 10-K of UCC).
- 10.6\* Indemnity Agreement, dated as of July 25, 1986, between the Company and Robert D. Kennedy (See Exhibit 10(a) of the Registration Statement on Form S-3, File No. 33-9922 of UCC). The Indemnity Agreement filed with the Commission is substantially identical in all material respects, except as to the parties thereto and dates thereof, with Indemnity Agreements between the Company and each person who was a Director or Officer of the Company on July 25, 1986, and each person elected prior to July 1, 1989 as a Director or Officer of the Company.
- 10.7 Agreement, dated as of October 2, 1986, among the Company, GAF Corporation, GAF Chemicals Corporation, Jay & Company, Inc., Mayfair Investments, Inc. and Mr. Samuel J. Heyman (See Exhibit 10(b) of the Registration Statement on Form S-3, File No. 33-9922 of UCC).
- 10.8.1\* Severance Compensation Agreement, dated November 22, 1985, between the Company and Robert D. Kennedy. The Severance Compensation Agreement filed with the Commission is substantially identical in all material aspects, except as to the parties thereto and the dates thereof, with Agreements between the Company and the Officers and certain other employees of the Company as of November 22, 1985 and January 29, 1988 (See Exhibit 10.23 of the 1986 Form 10-K of UCC).
- 10.8.2 Amendment dated September 26, 1989 to the Severance Compensation Agreement, dated November 22, 1985, between the Company and Robert D. Kennedy. The Amendment filed with the Commission is substantially identical in all material aspects, except as to the parties thereto, with Amendments to the Severance Compensation Agreements between the Company and the Officers and certain other employees of the Company as of November 22, 1985 and January 29, 1988 (See Exhibit 10.17.2 of the 1989 Form 10-K of UCC).
- 10.9 Severance Compensation Agreement, dated September 26, 1989, between UCC and Frederick J. Costello. The Severance Compensation Agreement filed with the Commission is substantially identical in all material aspects, except as to the parties thereto, with Agreements between UCC and the Officers and certain other employees of UCC as of September 26, 1989.
- 10.10 Severance Arrangement between the Company and Vance E. Sonnenberg (See Exhibit 10.34 of the 1986 Form 10-K of UCC).
- 10.11 Letter Agreement between the Company and John A. Stichnoth, Esq., dated July 6, 1987, with respect to Retiree Group-Term Life Insurance (See Exhibit 10.29 of the 1987 Form 10-K of UCC).
- 10.12 Resolution adopted by the Board of Directors of the Company on February 24, 1988, with respect to pension benefits for Louis G. Peloubet (See Exhibit 10.30 of the 1987 Form 10-K of UCC).

## **Exhibit Index (Cont.)**

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### **Exhibit No.**

- 10.13 Severance Arrangement between the Company and J. Clayton Stephenson, dated March 1, 1989 (See Exhibit 10.26 of the 1988 Form 10-K of UCC).
- 24 Consent of KPMG Peat Marwick on page 45.

\*The obligations of the Company hereunder were assumed by UCC as of July 1, 1989.



This page is a reference page used to track documents internally for the Division of Oil, Gas and Mining

Mine Permit Number M0370006 Mine Name Rim-Columbus  
Operator Denison Mines (USA) Date December 31, 1989  
TO \_\_\_\_\_ FROM \_\_\_\_\_

☐ CONFIDENTIAL ☐ BOND CLOSURE ☐ LARGE MAPS ☒ EXPANDABLE  
☐ MULTIPUL DOCUMENT TRACKING SHEET ☐ NEW APPROVED NOI  
☐ AMENDMENT ☐ OTHER \_\_\_\_\_

Description YEAR-Record Number

☐ NOI ☒ Incoming ☐ Outgoing ☐ Internal ☐ Superceded

Annual Report - Securities and  
Exchange Commission  
1989-10-K

☐ NOI ☐ Incoming ☐ Outgoing ☐ Internal ☐ Superceded

☐ NOI ☐ Incoming ☐ Outgoing ☐ Internal ☐ Superceded

☐ NOI ☐ Incoming ☐ Outgoing ☐ Internal ☐ Superceded

☐ TEXT/ 8 1/2 X 11 MAP PAGES ☐ 11 X 17 MAPS ☐ LARGE MAP

COMMENTS: \_\_\_\_\_

CC: \_\_\_\_\_